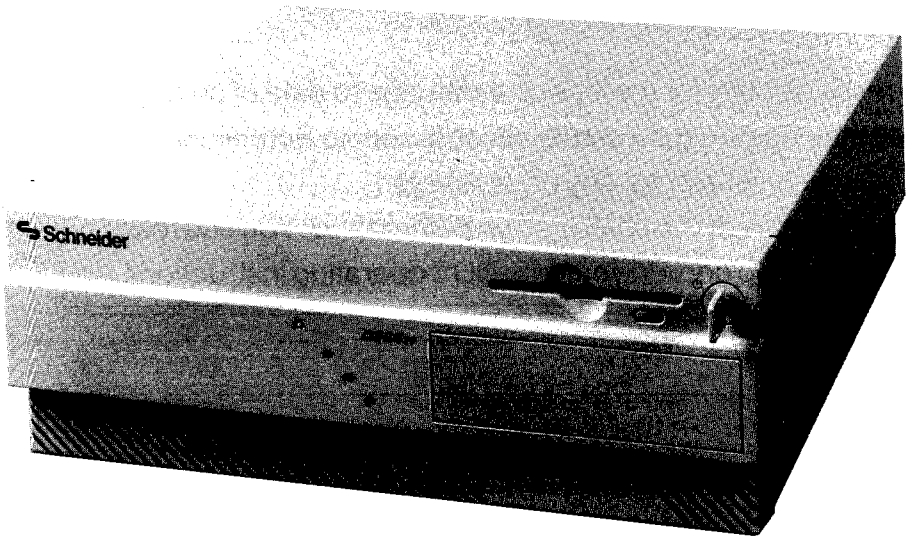
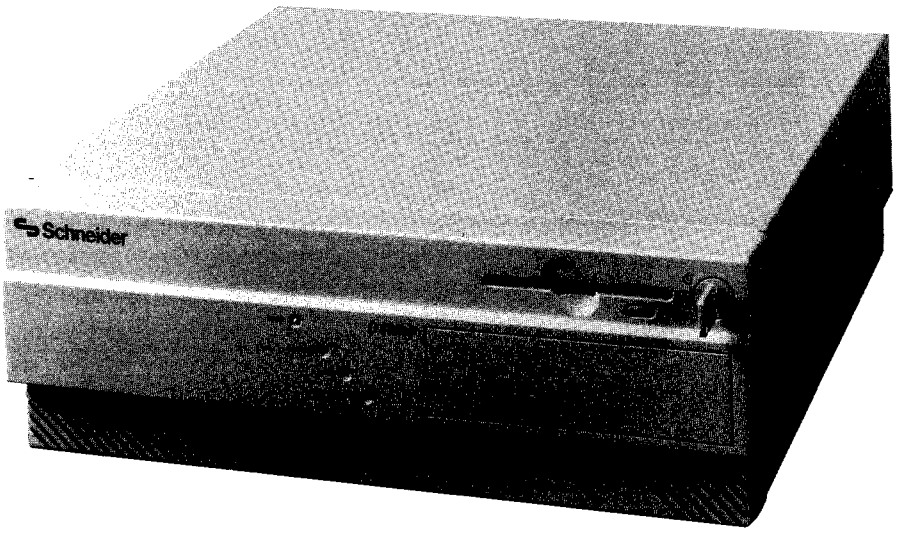
Kundendienst-Handbuch
Service manual

Schneider

SYSTEMEINHEIT

D 386/20
D 486/20





******** ACHTUNG! ********

Für Daten aller Art, die sich bei Einsendung an die Firma Schneider, im Servicefall oder in jedem anderen Fall noch auf einem Datenträger befinden, wird bei Verlust oder Beschädigung keinerlei Haftung übernommen!
Bitte, sichern Sie sich Ihre Daten vorher von Ihrem Datenträger. Wie man eine Sicherungskopie erstellt, können Sie in Ihrer MS-DOS-Betriebsanleitung nachlesen.

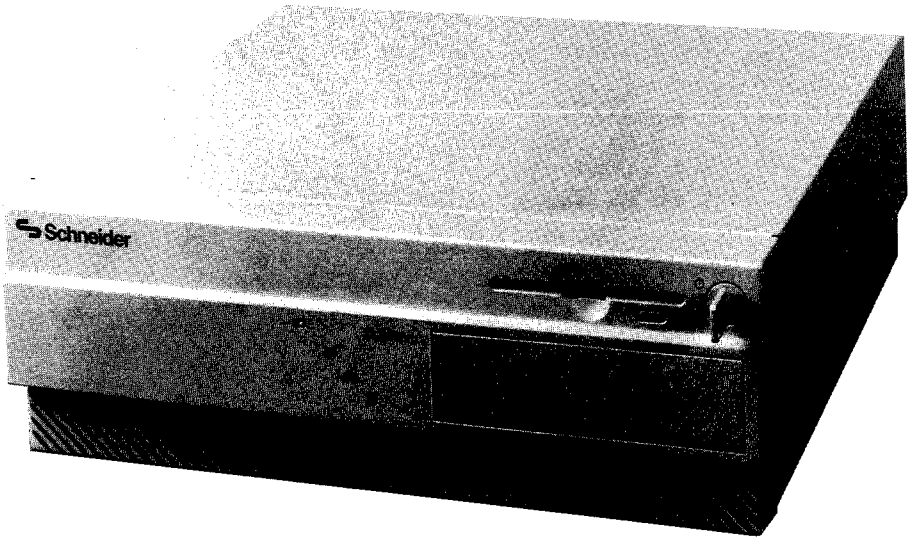
******** IMPORTANT! ********

We accept no responsibility for the loss of or damage to data of any kind which is still contained on a data carrier which is sent to Schneider for servicing or for any other reason!
Please copy your data from your data carrier beforehand. You can read how to produce a backup copy in your MS-DOS operating instructions.

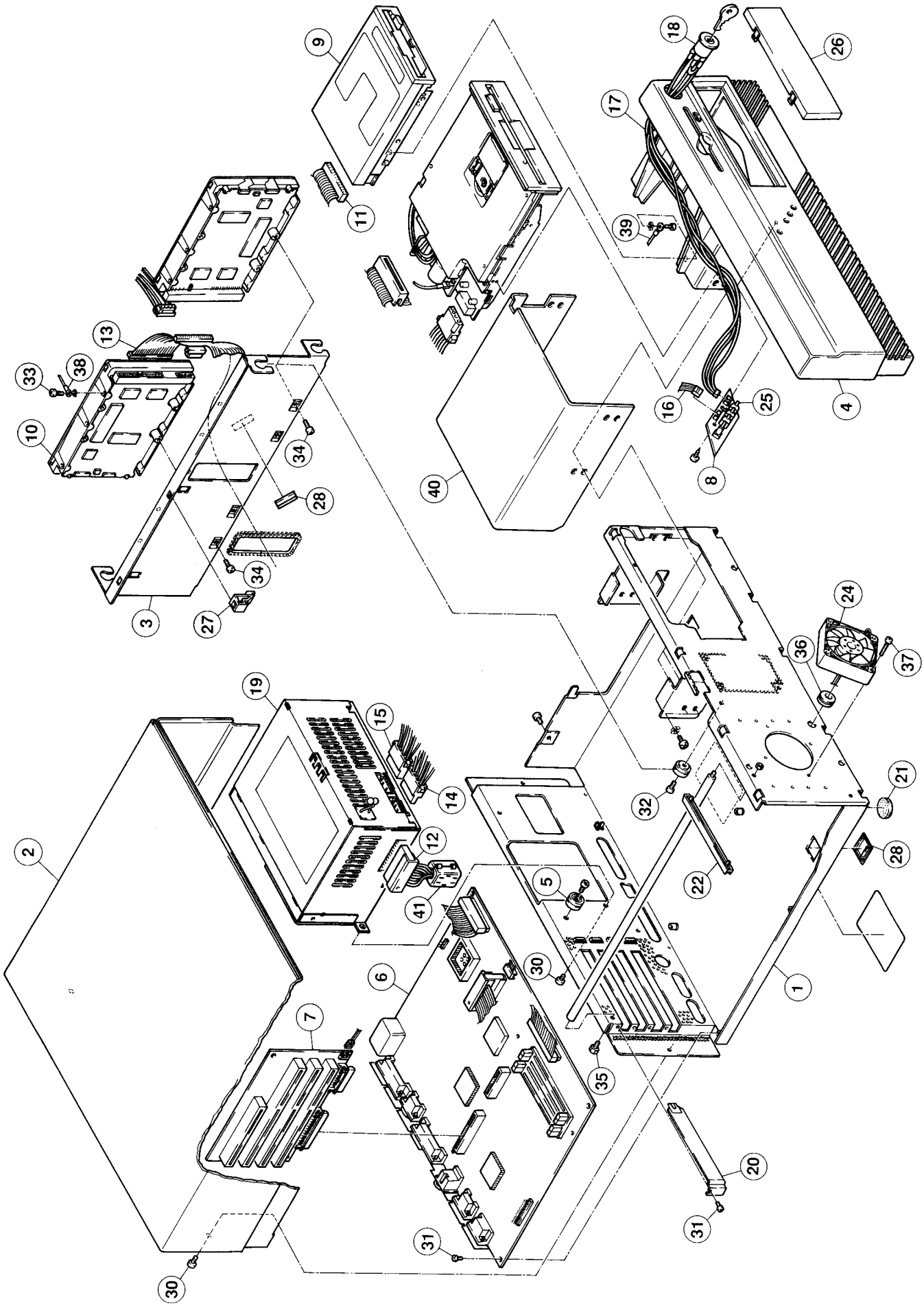
Kundendienst-Handbuch
Service manual

Schneider

SYSTEMEINHEIT



Exploded view



Ersatzteilliste für D 386/20 – HD 52
Parts list for D 386/20 – HD 52

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 675 00	Styropor	Polyfoam		C 4
53 704 00	Faltkarton	Gift box		C 1
52 600 00	Gehäuseunterteil	Cabinet, bottom	1	D 6
52 601 00	Gehäuseoberteil	Cabinet, top	2	D 3
52 610 00	Halteblech HD	Retaining plate	3	B 7
53 356 00	Frontblende	Front, mask	4	C 5
52 611 00	Gummimetall	Erasermetal	5	A 7
53 456 00	Platine CPU 386-SX/20	P.C.B. CPU	6	K 4
52 613 00	Platine Steckplatz	P.C.B. slot	7	E 2
53 194 00	Platine LED	P.C.B. LED	8	C 4
50 021 00	Floppylaufwerk 1,44 MB	Floppy disk drive 1.44 MB	9	F 9
52 787 00	HD-Laufwerk 52 MB	Hard disk drive 52 MB	10	J 4
53 837 00	Kabelbaum Floppy	Cable loop floppy	11	B 9
52 789 00	Verbindungskabel, Netz-CPU	Cable, connection	12	B 7
52 790 00	HD-Kabel	Cable, HDD	13	B 9
52 791 00	Adapterkabel HD 4pol.	Cable, adapter	14	C 2
52 794 00	Kabelbaum LED	Cable loop LED	16	B 1
52 795 00	kabelbaum Schloß	Cable loop lock	17	A 7
53 175 00	Schlüsselschalter kpl.	Key switch	18	C 6
53 957 00	Netzteil	Power supply	19	G 3
50 020 00	Blindblech	Plate, blind	20	A 6
51 456 00	Gehäusefuß	Leg, cabinet	21	A 4
52 612 00	Führungsschiene	Guide rail	22	A 4
52 798 00	Lüfter	Ventilator	24	D 6
52 632 00	Druckknopf Reset	Pushbutton, reset	25	A 6
52 619 00	Blindblende	Plate, blind	26	A 6
50 294 00	Druckknopf Floppy (Sony)	Push button, floppy (Sony)		A 5
65 220 00	Schlüssel	Key		B 5
52 665 00	Netzkabel	Cord AC		C 5
65 467 00	IC BIOS-KIT	IC BIOS-KIT		E 9
53 221 00	Tastatur (D)	Keyboard (D)		F 6
53 222 00	Tastatur (CH)	Keyboard (CH)		F 6
53 223 00	Tastatur (DK)	Keyboard (DK)		F 6
53 224 00	Tastatur (E)	Keyboard (E)		F 6
53 225 00	Tastatur (F)	Keyboard (F)		F 6
53 226 00	Tastatur (F) DUAL	Keyboard (F) DUAL		F 6
53 227 00	Tastatur (I)	Keyboard (I)		F 6
53 228 00	Tastatur (N)	Keyboard (N)		F 6
53 229 00	Tastatur (P)	Keyboard (P)		F 6
53 230 00	Tastatur (S/SF)	Keyboard (S/SF)		F 6
53 231 00	Tastatur (GR)	Keyboard (GR)		F 6
53 232 00	Tastatur (GB)	Keyboard (GB)		F 6

Ersatzteilliste für D 386/20 – HD 105
Parts list for D 386/20 – HD 105

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
52 820 00	HD-Laufwerk 105 MB	Hard disk drive 105 MB		K 3

Ersatzteilliste für D 386/20 – HD 200
Parts list for D 386/20 – HD 200

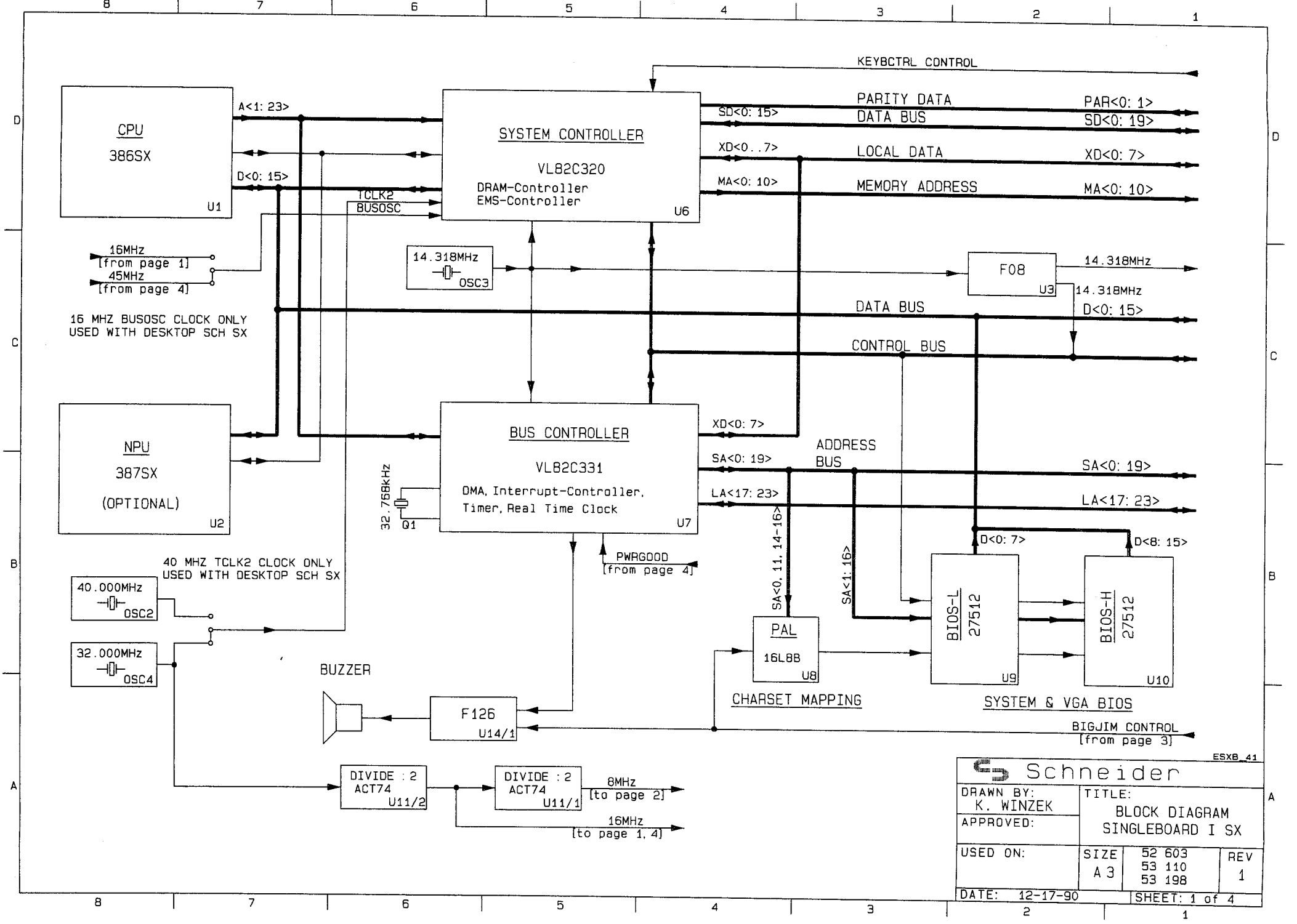
Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 252 00	HD-Laufwerk 200 MB	Hard disk drive 200 MB		L 1

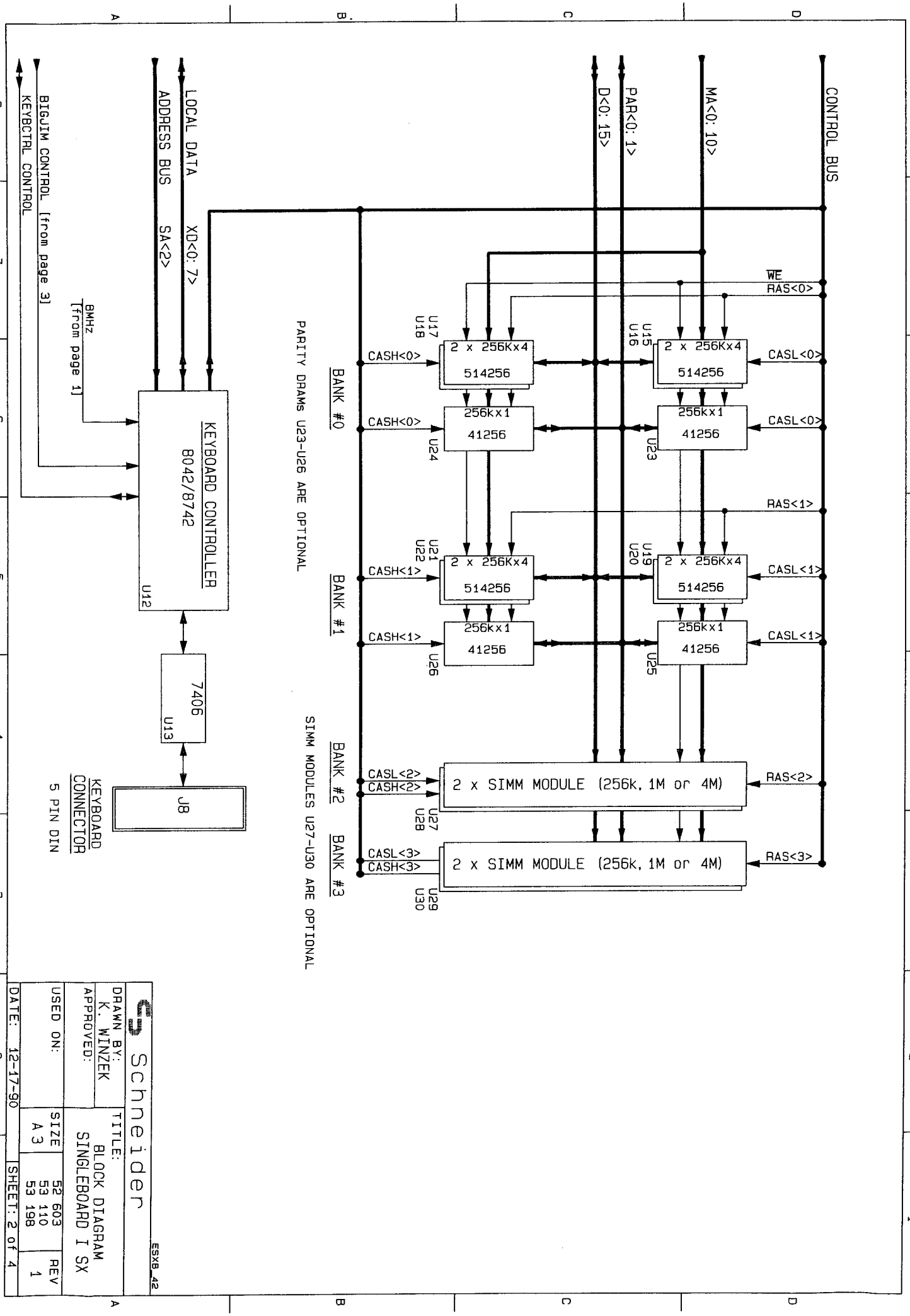
Reparaturpauschale
Repair all-inclusive price

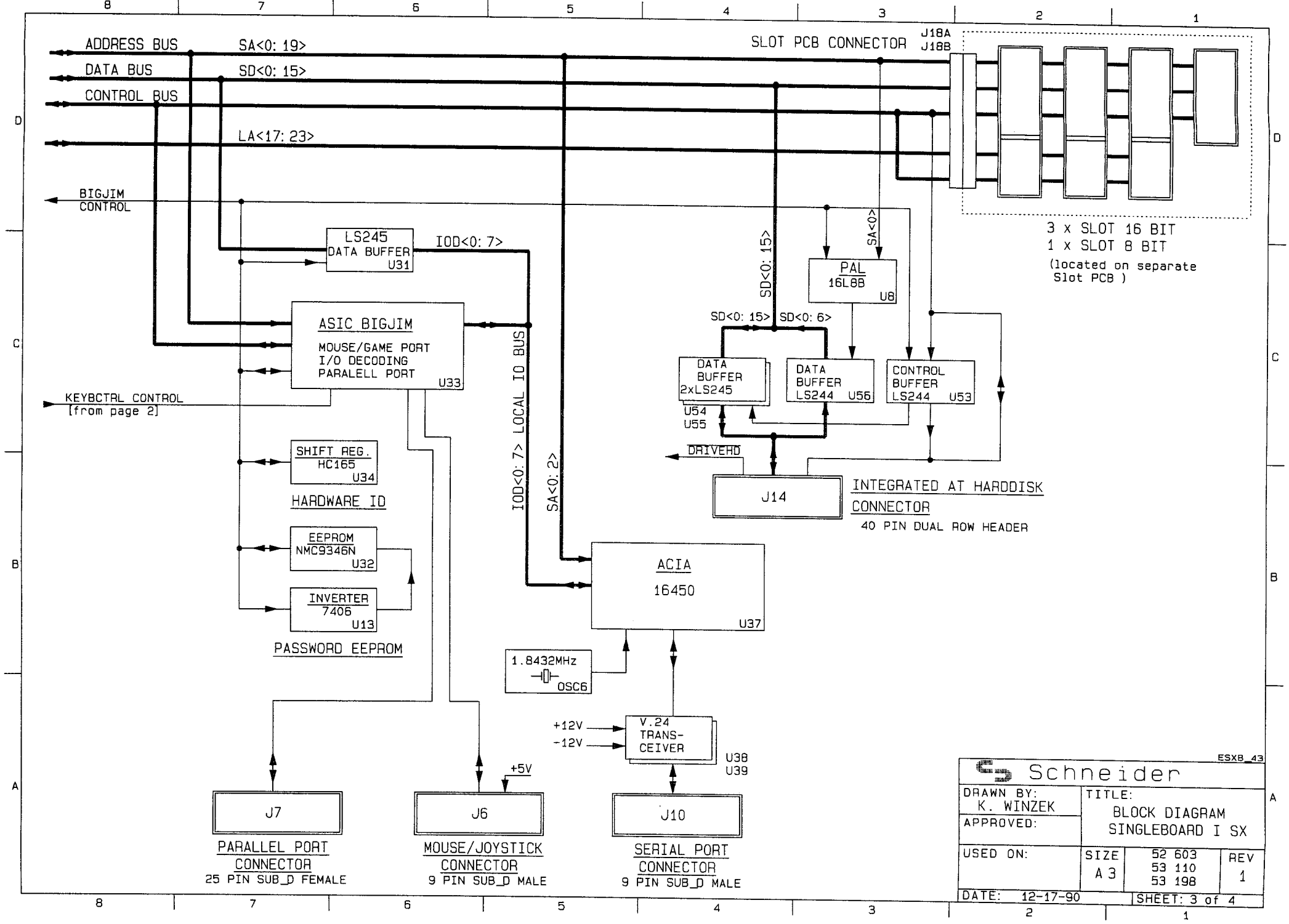
Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 456 00	Platine CPU 20 MHz	P.C.B. CPU 20 MHz		G 7

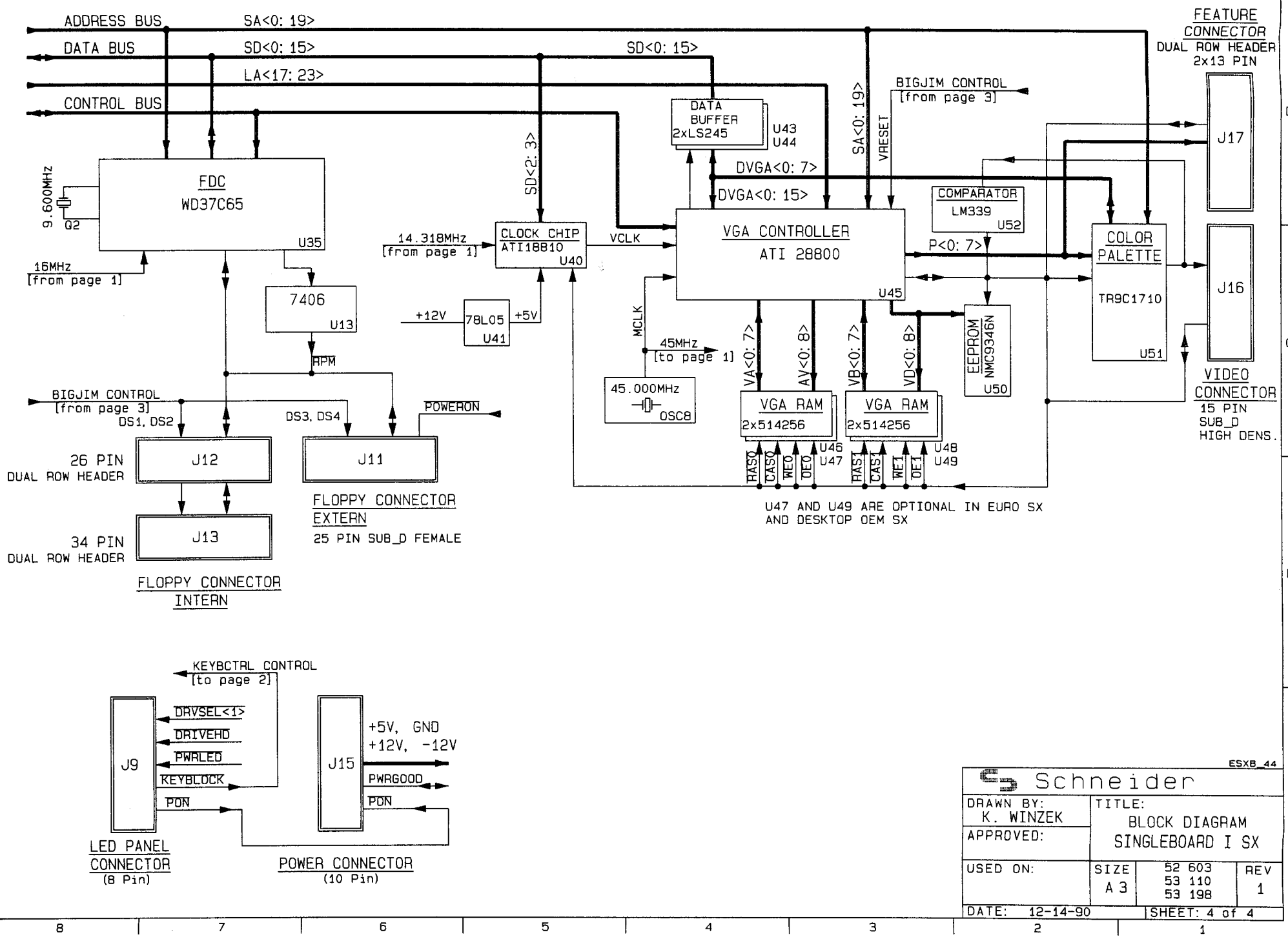
Note: All spare parts with countryindex are reserved for foreign distributors only.

All 3.5" and 5.25" floppydisk must be replaced with new one. Schneider pass no exchange price to the distributor or dealer.


KEYBCTRL CONTROL
CPU
386SX
U1
A<1: 23>
D<0: 15>
SYSTEM CONTROLLER
VL82C320
DRAM-Controller
EMS-Controller
U6
TCLK2
BUSOSC
SD<0: 15>
PARITY DATA
DATA BUS
PAR<0: 1>
SD<0: 19>
XD<0..7>
LOCAL DATA
XD<0: 7>
MA<0: 10>
MEMORY ADDRESS
MA<0: 10>
16MHz
[from page 1]
45MHz
[from page 4]
16 MHZ BUSOSC CLOCK ONLY
USED WITH DESKTOP SCH SX
14.318MHz
OSC3
F08
U3
14.318MHz
14.318MHz
DATA BUS
D<0: 15>
CONTROL BUS
NPU
387SX
(OPTIONAL)
U2
BUS CONTROLLER
VL82C331
DMA, Interrupt-Controller,
Timer, Real Time Clock
U7
XD<0: 7>
ADDRESS
BUS
SA<0: 19>
SA<0: 19>
LA<17: 23>
LA<17: 23>
32.768kHz
Q1
PWRGOOD
[from page 4]
SA<0, 11, 14-16>
SA<1: 16>
D<0: 7>
D<8: 15>
40 MHZ TCLK2 CLOCK ONLY
USED WITH DESKTOP SCH SX
40.000MHz
OSC2
32.000MHz
OSC4
PAL
16L8B
U8
BIOS-L
27512
U9
BIOS-H
27512
U10
CHARSET MAPPING
SYSTEM & VGA BIOS
BUZZER
F126
U14/1
BIGJIM CONTROL
[from page 3]
DIVIDE : 2
ACT74
U11/2
DIVIDE : 2
ACT74
U11/1
8MHz
[to page 2]
16MHz
[to page 1, 4]
ESXB_41
Schneider
DRAWN BY:
K. WINZEK
APPROVED:
USED ON:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD I SX
SIZE
A 3
52 603
53 110
53 198
REV
1
DATE: 12-17-90
SHEET: 1 of 4


CONTROL BUS
MA<0: 10>
PAR<0: 1>
D<0: 15>
WE
RAS<0>
RAS<1>
RAS<2>
RAS<3>
U17 U18
U15 U16
2 x 256Kx4
514256
CASH<0>
CASL<0>
256kx1
41256
U24
U23
U21 U22
U19 U20
CASH<1>
CASL<1>
U26
U25
BANK #0
BANK #1
BANK #2
BANK #3
CASL<2>
CASH<2>
2 x SIMM MODULE (256k, 1M or 4M)
U27 U28
CASL<3>
CASH<3>
U29 U30
PARITY DRAMS U23-U26 ARE OPTIONAL
SIMM MODULES U27-U30 ARE OPTIONAL
LOCAL DATA
XD<0: 7>
ADDRESS BUS
SA<2>
BMHz
[from page 1]
BIGJIM CONTROL [from page 3]
KEYBCTRL CONTROL
KEYBOARD CONTROLLER
8042/8742
U12
7406
U13
J8
KEYBOARD
CONNECTOR
5 PIN DIN
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: BLOCK DIAGRAM SINGLEBOARD I SX
ESXB_42
USED ON:
SIZE A 3
52 603
53 110
53 198
REV 1
DATE: 12-17-90
SHEET: 2 of 4

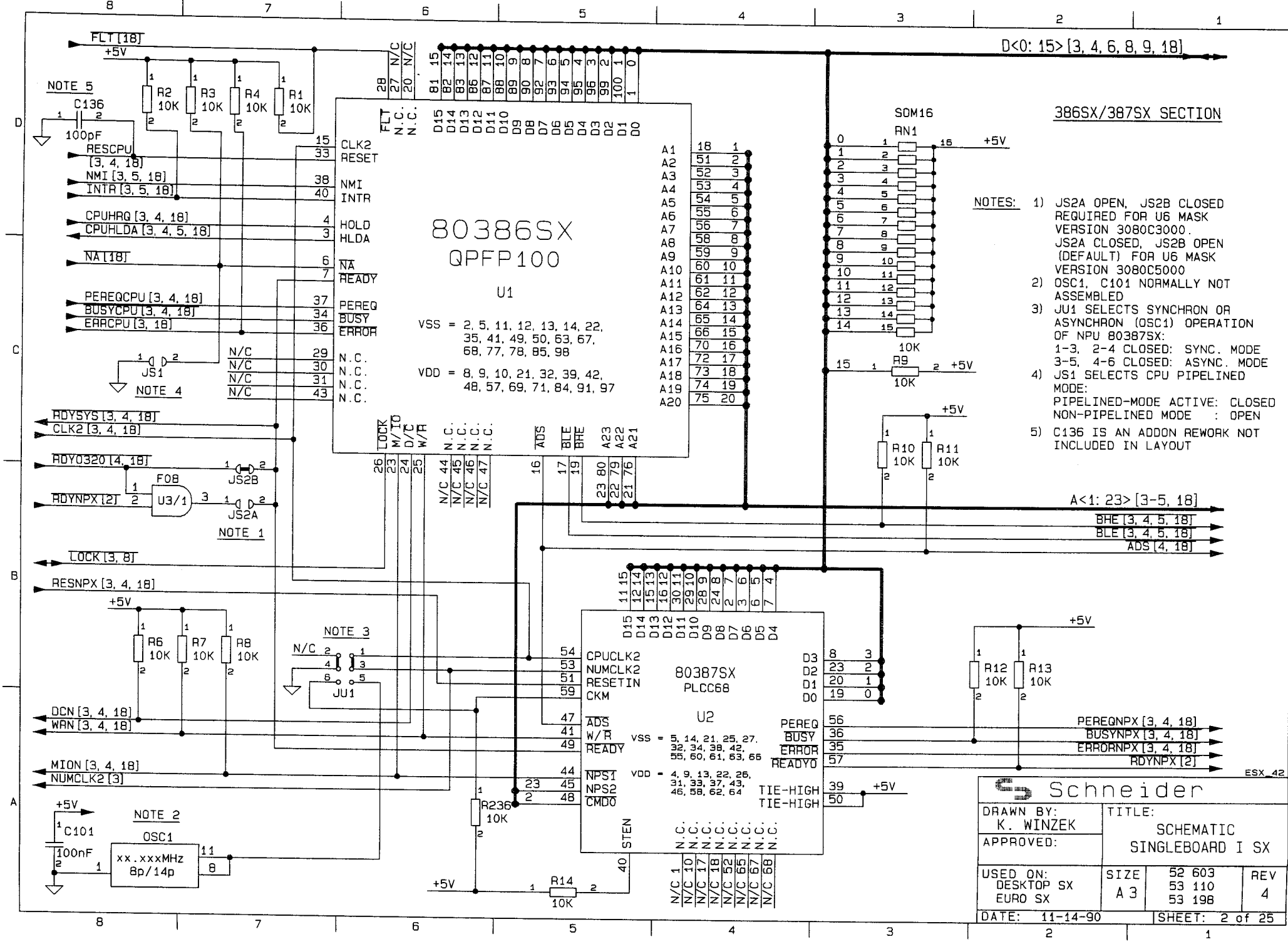

ADDRESS BUS
SA<0: 19>
DATA BUS
SD<0: 15>
CONTROL BUS
LA<17: 23>
BIGJIM CONTROL
SLOT PCB CONNECTOR
J18A
J18B
3 x SLOT 16 BIT
1 x SLOT 8 BIT
(located on separate Slot PCB)
LS245 DATA BUFFER U31
IOD<0: 7>
ASIC BIGJIM
MOUSE/GAME PORT
I/O DECODING
PARALELL PORT
U33
KEYBCTRL CONTROL [from page 2]
IOD<0: 7> LOCAL IO BUS
SA<0: 2>
SD<0: 15>
SA<0>
PAL 16L8B U8
SD<0: 15>
SD<0: 6>
DATA BUFFER 2xLS245
U54
U55
DATA BUFFER LS244 U56
CONTROL BUFFER LS244 U53
DRIVERD
J14
INTEGRATED AT HARDDISK
CONNECTOR
40 PIN DUAL ROW HEADER
SHIFT REG. HC165 U34
HARDWARE ID
EEPROM NMC9346N U32
INVERTER 7406 U13
PASSWORD EEPROM
ACIA 16450 U37
1.8432MHz
OSC6
+12V
-12V
V.24 TRANS-CEIVER
U38
U39
+5V
J7
PARALLEL PORT
CONNECTOR
25 PIN SUB_D FEMALE
J6
MOUSE/JOYSTICK
CONNECTOR
9 PIN SUB_D MALE
J10
SERIAL PORT
CONNECTOR
9 PIN SUB_D MALE
ESXB_43
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: BLOCK DIAGRAM SINGLEBOARD I SX
USED ON:
SIZE A 3
52 603
53 110
53 198
REV 1
DATE: 12-17-90
SHEET: 3 of 4

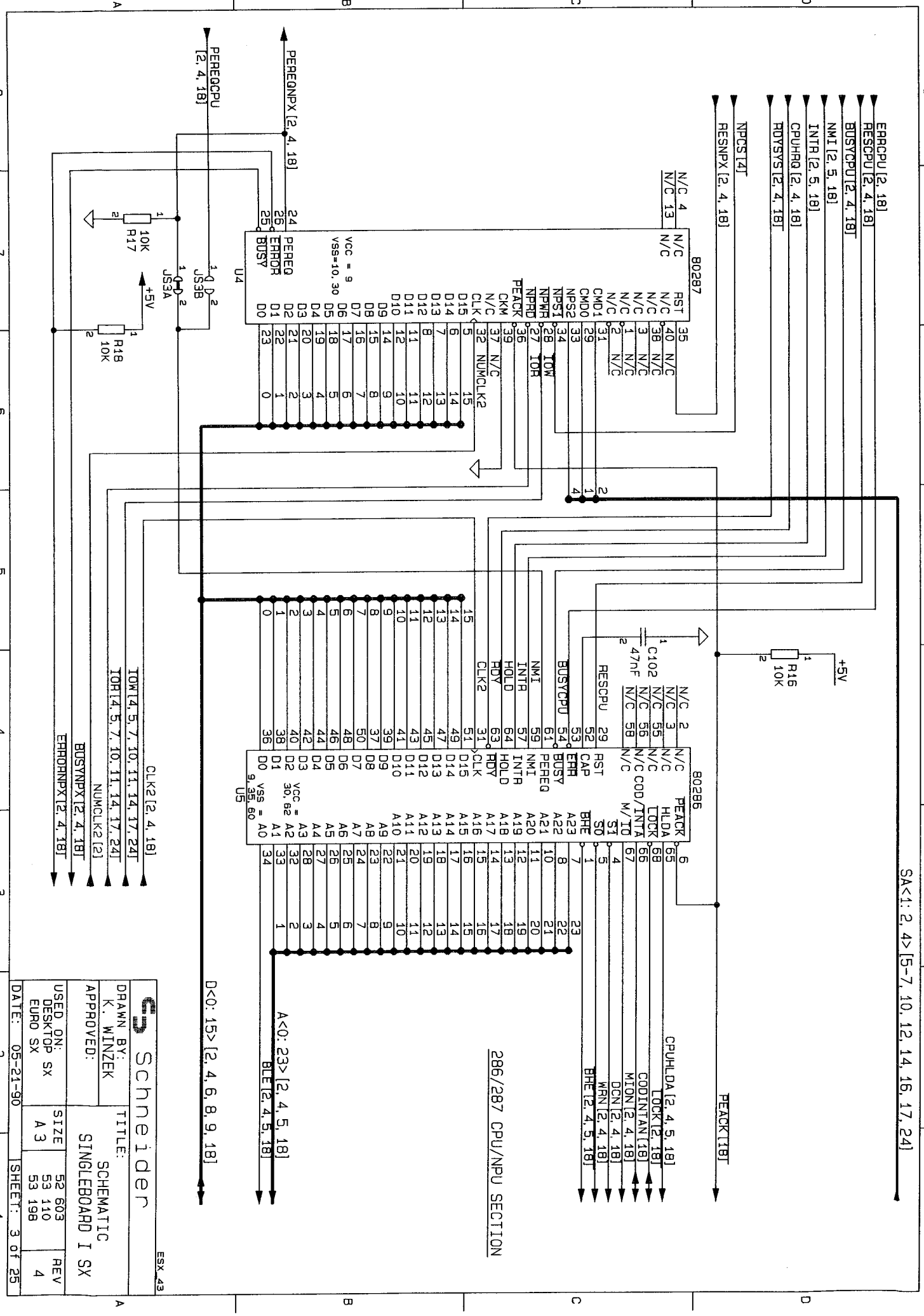


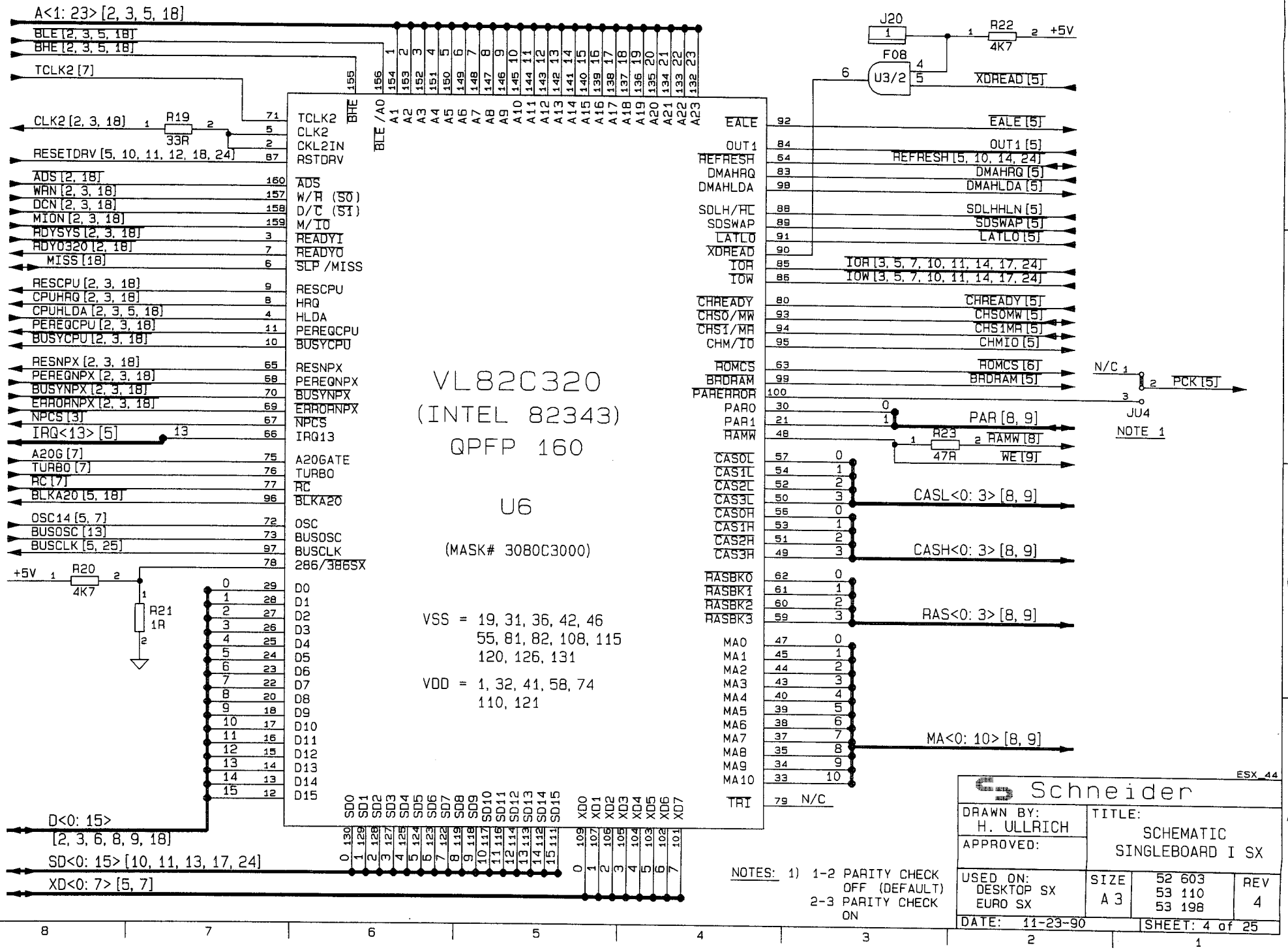
ESXB_44

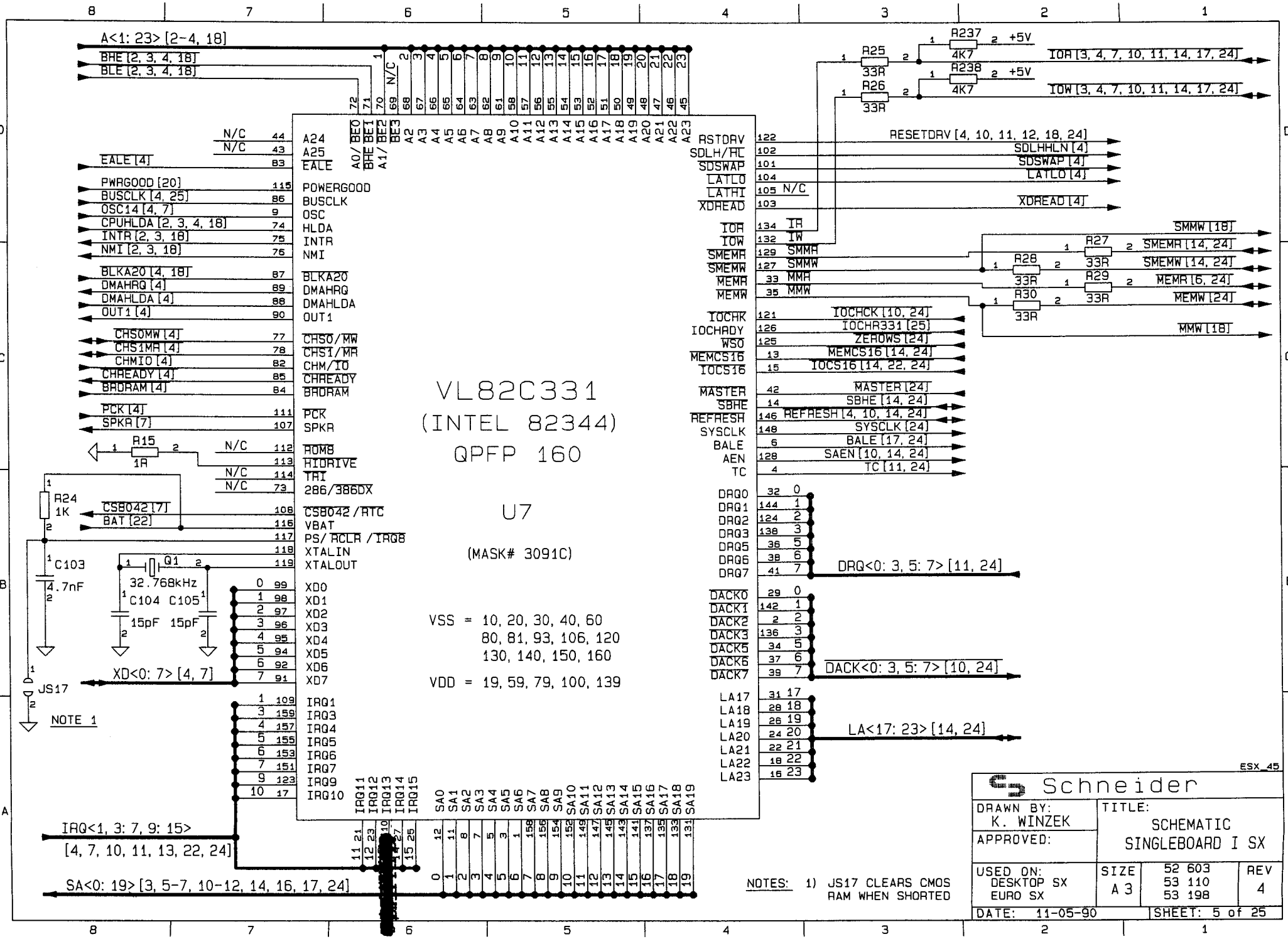
Schneider

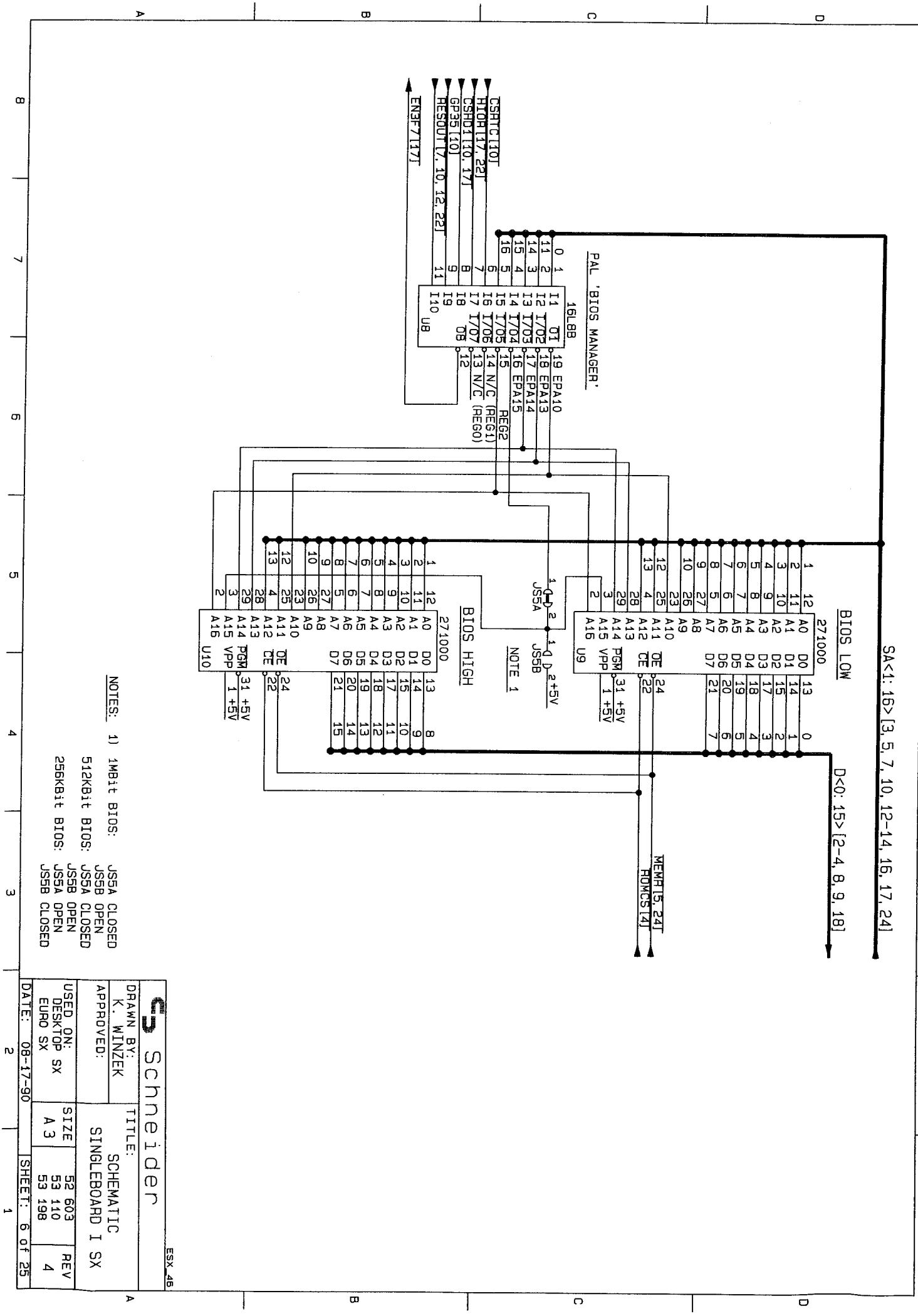
DRAWN BY: K. WINZEK	TITLE: BLOCK DIAGRAM SINGLEBOARD I SX		
APPROVED:			
USED ON:	SIZE A 3	52 603 53 110 53 198	REV 1
DATE: 12-14-90	SHEET: 4 of 4		

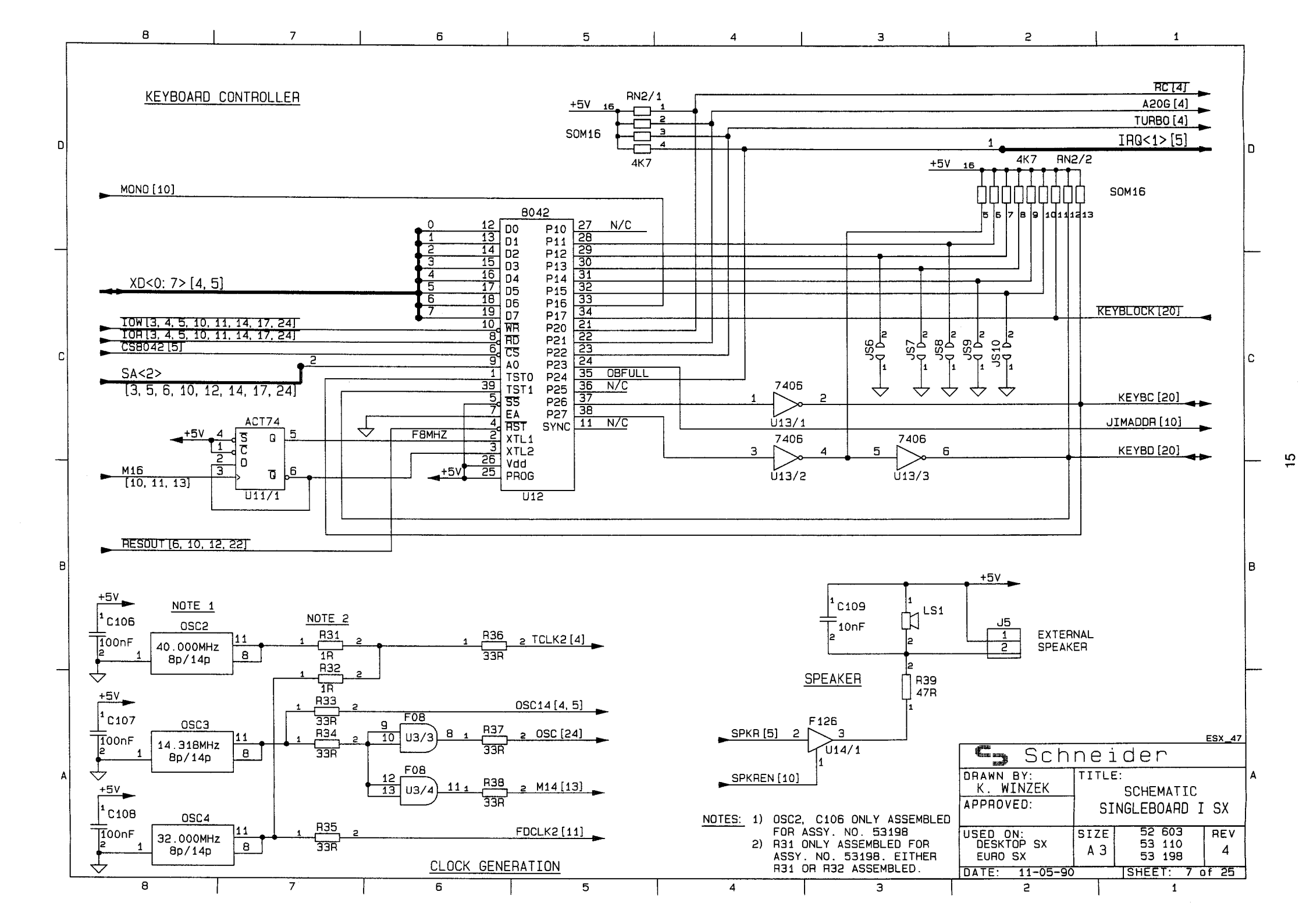

386SX/387SX SECTION
80386SX
QPFP100
U1
VSS = 2, 5, 11, 12, 13, 14, 22, 35, 41, 49, 50, 63, 67, 68, 77, 78, 85, 98
VDD = 8, 9, 10, 21, 32, 39, 42, 48, 57, 69, 71, 84, 91, 97
80387SX
PLCC68
U2
VSS = 5, 14, 21, 25, 27, 32, 34, 38, 42, 55, 60, 61, 63, 65
VDD = 4, 9, 13, 22, 26, 31, 33, 37, 43, 46, 58, 62, 64
SOM16
RN1
NOTES:
1) JS2A OPEN, JS2B CLOSED REQUIRED FOR U6 MASK VERSION 3080C3000. JS2A CLOSED, JS2B OPEN (DEFAULT) FOR U6 MASK VERSION 3080C5000
2) OSC1, C101 NORMALLY NOT ASSEMBLED
3) JU1 SELECTS SYNCHRON OR ASYNCHRON (OSC1) OPERATION OF NPU 80387SX:
1-3, 2-4 CLOSED: SYNC. MODE
3-5, 4-6 CLOSED: ASYNC. MODE
4) JS1 SELECTS CPU PIPELINED MODE:
PIPELINED-MODE ACTIVE: CLOSED
NON-PIPELINED MODE : OPEN
5) C136 IS AN ADDON REWORK NOT INCLUDED IN LAYOUT
D<0: 15> [3, 4, 6, 8, 9, 18]
A<1: 23> [3-5, 18]
BHE [3, 4, 5, 18]
BLE [3, 4, 5, 18]
ADS [4, 18]
PEREQNPX [3, 4, 18]
BUSYNPX [3, 4, 18]
ERRORNPX [3, 4, 18]
RDYNPX [2]
ESX_42
FLT [18]
RESCPU [3, 4, 18]
NMI [3, 5, 18]
INTR [3, 5, 18]
CPUHRQ [3, 4, 18]
CPUHLDA [3, 4, 5, 18]
NA [18]
PEREQCPU [3, 4, 18]
BUSYCPU [3, 4, 18]
ERRCPU [3, 18]
RDYSYS [3, 4, 18]
CLK2 [3, 4, 18]
RDY0320 [4, 18]
RDYNPX [2]
LOCK [3, 8]
RESNPX [3, 4, 18]
DCN [3, 4, 18]
WAN [3, 4, 18]
MION [3, 4, 18]
NUMCLK2 [3]
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603 53 110 53 198
REV 4
DATE: 11-14-90
SHEET: 2 of 25

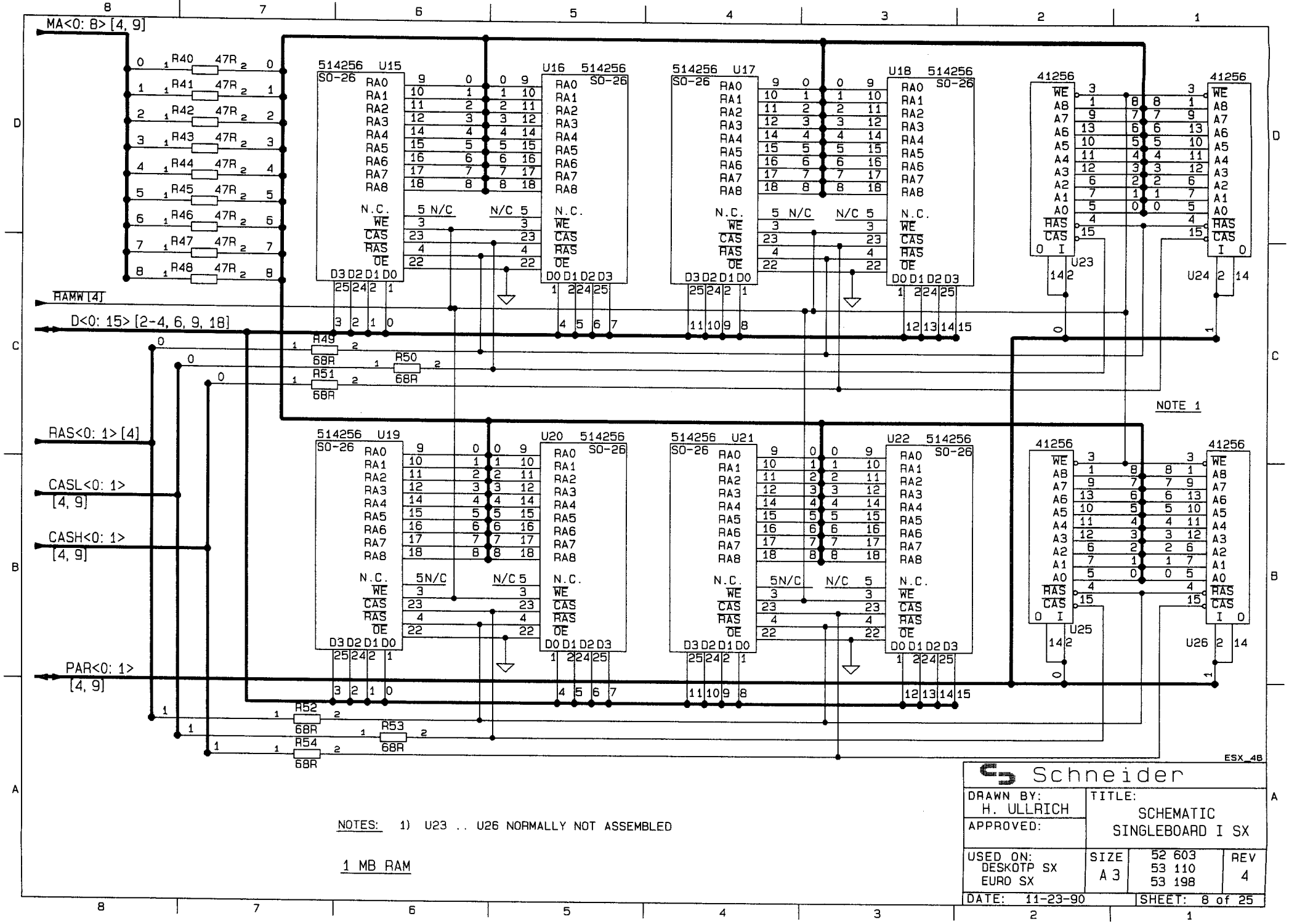

ERRCPU [2, 18]
RESCPU [2, 4, 18]
BUSYCPU [2, 4, 18]
NMI [2, 5, 18]
INTR [2, 5, 18]
CPUHRQ [2, 4, 18]
RDYSYS [2, 4, 18]
NPCS [4]
RESNPX [2, 4, 18]
SA<1: 2, 4> [5-7, 10, 12, 14, 16, 17, 24]
PEREQNPX [2, 4, 18]
PEREQCPU [2, 4, 18]
80287
U4
VCC = 9
VSS=10, 30
80286
U5
VCC = 30, 62
VSS = 9, 35, 60
R16 10K
R17 10K
R18 10K
+5V
C102 47nF
JS3A
JS3B
CLK2 [2, 4, 18]
IOW [4, 5, 7, 10, 11, 14, 17, 24]
IOR [4, 5, 7, 10, 11, 14, 17, 24]
NUMCLK2 [2]
BUSYNPX [2, 4, 18]
ERRONPX [2, 4, 18]
CPUHLDA [2, 4, 5, 18]
LOCK [2, 18]
CODINTAN [18]
MION [2, 4, 18]
DCN [2, 4, 18]
WRN [2, 4, 18]
BHE [2, 4, 5, 18]
PEACK [18]
D<0: 15> [2, 4, 6, 8, 9, 18]
A<0: 23> [2, 4, 5, 18]
BLE [2, 4, 5, 18]
286/287 CPU/NPU SECTION
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 05-21-90
SHEET: 3 of 25
ESX_43


A<1: 23> [2, 3, 5, 18]
BLE [2, 3, 5, 18]
BHE [2, 3, 5, 18]
TCLK2 [7]
CLK2 [2, 3, 18]
R19
33R
RESETDRV [5, 10, 11, 12, 18, 24]
ADS [2, 18]
WRN [2, 3, 18]
DCN [2, 3, 18]
MION [2, 3, 18]
RDYSYS [2, 3, 18]
RDY0320 [2, 18]
MISS [18]
RESCPU [2, 3, 18]
CPUHRQ [2, 3, 18]
CPUHLDA [2, 3, 5, 18]
PEREQCPU [2, 3, 18]
BUSYCPU [2, 3, 18]
RESNPX [2, 3, 18]
PEREQNPX [2, 3, 18]
BUSYNPX [2, 3, 18]
ERRORNPX [2, 3, 18]
NPCS [3]
IRQ<13> [5]
A20G [7]
TURBO [7]
RC [7]
BLKA20 [5, 18]
OSC14 [5, 7]
BUSOSC [13]
BUSCLK [5, 25]
+5V
R20
4K7
R21
1R
D<0: 15>
[2, 3, 6, 8, 9, 18]
SD<0: 15> [10, 11, 13, 17, 24]
XD<0: 7> [5, 7]
VL82C320
(INTEL 82343)
QPFP 160
U6
(MASK# 3080C3000)
VSS = 19, 31, 36, 42, 46
55, 81, 82, 108, 115
120, 126, 131
VDD = 1, 32, 41, 58, 74
110, 121
TCLK2
CLK2
CKL2IN
RSTDRV
ADS
W/R (S0)
D/C (S1)
M/IO
READYI
READYO
SLP /MISS
RESCPU
HRQ
HLDA
PEREQCPU
BUSYCPU
RESNPX
PEREQNPX
BUSYNPX
ERROANPX
NPCS
IRQ13
A20GATE
TURBO
RC
BLKA20
OSC
BUSOSC
BUSCLK
286/386SX
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15
BHE
BLE /A0
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20 A21 A22 A23
SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7 SD8 SD9 SD10 SD11 SD12 SD13 SD14 SD15
XD0 XD1 XD2 XD3 XD4 XD5 XD6 XD7
EALE
OUT1
REFRESH
DMAHRQ
DMAHLDA
SDLH/HL
SDSWAP
LATLO
XDREAD
IOR
IOW
CHREADY
CHS0/MW
CHS1/MR
CHM/IO
ROMCS
BADRAM
PAHERROR
PAR0
PAR1
RAMW
CAS0L CAS1L CAS2L CAS3L
CAS0H CAS1H CAS2H CAS3H
RASBK0 RASBK1 RASBK2 RASBK3
MA0 MA1 MA2 MA3 MA4 MA5 MA6 MA7 MA8 MA9 MA10
TRI
N/C
J20
F08
U3/2
R22
4K7
+5V
XDREAD [5]
EALE [5]
OUT1 [5]
REFRESH [5, 10, 14, 24]
DMAHRQ [5]
DMAHLDA [5]
SDLHHLN [5]
SDSWAP [5]
LATLO [5]
IOR [3, 5, 7, 10, 11, 14, 17, 24]
IOW [3, 5, 7, 10, 11, 14, 17, 24]
CHREADY [5]
CHS0MW [5]
CHS1MR [5]
CHMIO [5]
ROMCS [6]
BADRAM [5]
N/C
PCK [5]
JU4
NOTE 1
PAR [8, 9]
R23
47R
RAMW [8]
WE [9]
CASL<0: 3> [8, 9]
CASH<0: 3> [8, 9]
RAS<0: 3> [8, 9]
MA<0: 10> [8, 9]
NOTES: 1) 1-2 PARITY CHECK OFF (DEFAULT)
2-3 PARITY CHECK ON
ESX_44
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603 53 110 53 198
REV 4
DATE: 11-23-90
SHEET: 4 of 25


VL82C331
(INTEL 82344)
QPFP 160
U7
(MASK# 3091C)
VSS = 10, 20, 30, 40, 60
80, 81, 93, 106, 120
130, 140, 150, 160
VDD = 19, 59, 79, 100, 139
A<1: 23> [2-4, 18]
BHE [2, 3, 4, 18]
BLE [2, 3, 4, 18]
EALE [4]
PWRGOOD [20]
BUSCLK [4, 25]
OSC14 [4, 7]
CPUHLDA [2, 3, 4, 18]
INTR [2, 3, 18]
NMI [2, 3, 18]
BLKA20 [4, 18]
DMAHRQ [4]
DMAHLDA [4]
OUT1 [4]
CHS0MW [4]
CHS1MR [4]
CHMIO [4]
CHREADY [4]
BHORAM [4]
PCK [4]
SPKR [7]
CS8042 [7]
BAT [22]
XD<0: 7> [4, 7]
IRQ<1, 3: 7, 9: 15>
[4, 7, 10, 11, 13, 22, 24]
SA<0: 19> [3, 5-7, 10-12, 14, 16, 17, 24]
IOR [3, 4, 7, 10, 11, 14, 17, 24]
IOW [3, 4, 7, 10, 11, 14, 17, 24]
RESETDRV [4, 10, 11, 12, 18, 24]
SDLHHLN [4]
SDSWAP [4]
LATLO [4]
XDREAD [4]
SMMW [18]
SMEMR [14, 24]
SMEMW [14, 24]
MEMR [6, 24]
MEMW [24]
MMW [18]
IOCHCK [10, 24]
IOCHR331 [25]
ZEROWS [24]
MEMCS16 [14, 24]
IOCS16 [14, 22, 24]
MASTER [24]
SBHE [14, 24]
REFRESH [4, 10, 14, 24]
SYSCLK [24]
BALE [17, 24]
SAEN [10, 14, 24]
TC [11, 24]
DRQ<0: 3, 5: 7> [11, 24]
DACK<0: 3, 5: 7> [10, 24]
LA<17: 23> [14, 24]
R15 1R
R24 1K
C103 4.7nF
Q1 32.768kHz
C104 C105 15pF 15pF
JS17
NOTE 1
R25 33R
R26 33R
R237 4K7
R238 4K7
R27 33R
R28 33R
R29 33R
R30 33R
NOTES: 1) JS17 CLEARS CMOS RAM WHEN SHORTED
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 11-05-90
SHEET: 5 of 25
ESX_45


PAL 'BIOS MANAGER'
16L8B
U8
CSRTC [10]
HIOR [17, 22]
CSRD1 [10, 17]
GP35 [10]
RESOUT [7, 10, 12, 22]
EN3F7 [17]
BIOS LOW
BIOS HIGH
271000
U9
U10
JS5A
JS5B
NOTE 1
+5V
SA<1: 16> [3, 5, 7, 10, 12-14, 16, 17, 24]
D<0: 15> [2-4, 8, 9, 18]
MEMR [5, 24]
ROMCS [4]
NOTES: 1) 1MBit BIOS: JS5A CLOSED
JS5B OPEN
512KBit BIOS: JS5A CLOSED
JS5B OPEN
256KBit BIOS: JS5A OPEN
JS5B CLOSED
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC
SINGLEBOARD I SX
USED ON: DESKTOP SX
EURO SX
SIZE A 3
52 603
53 110
53 198
REV 4
DATE: 08-17-90
SHEET: 6 of 25
ESX_46


KEYBOARD CONTROLLER
RN2/1
+5V
SOM16
4K7
RC [4]
A20G [4]
TURBO [4]
IRQ<1> [5]
RN2/2
MONO [10]
8042
XD<0: 7> [4, 5]
IOW [3, 4, 5, 10, 11, 14, 17, 24]
IOR [3, 4, 5, 10, 11, 14, 17, 24]
CS8042 [5]
SA<2>
[3, 5, 6, 10, 12, 14, 17, 24]
N/C
OBFULL
KEYBLOCK [20]
JS6
JS7
JS8
JS9
JS10
7406
U13/1
U13/2
U13/3
KEYBC [20]
JIMADDR [10]
KEYBD [20]
ACT74
U11/1
F8MHZ
M16
[10, 11, 13]
RESOUT [6, 10, 12, 22]
U12
NOTE 1
NOTE 2
OSC2
40.000MHz
8p/14p
C106
100nF
R31
1R
R32
1R
R36
33R
TCLK2 [4]
OSC3
14.318MHz
C107
R33
R34
R37
OSC [24]
OSC14 [4, 5]
F08
U3/3
U3/4
R38
M14 [13]
OSC4
32.000MHz
C108
R35
FDCLK2 [11]
CLOCK GENERATION
C109
10nF
LS1
J5
EXTERNAL
SPEAKER
R39
47R
F126
U14/1
SPKR [5]
SPKREN [10]
NOTES: 1) OSC2, C106 ONLY ASSEMBLED FOR ASSY. NO. 53198
2) R31 ONLY ASSEMBLED FOR ASSY. NO. 53198. EITHER R31 OR R32 ASSEMBLED.
ESX_47
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603
53 110
53 198
REV 4
DATE: 11-05-90
SHEET: 7 of 25



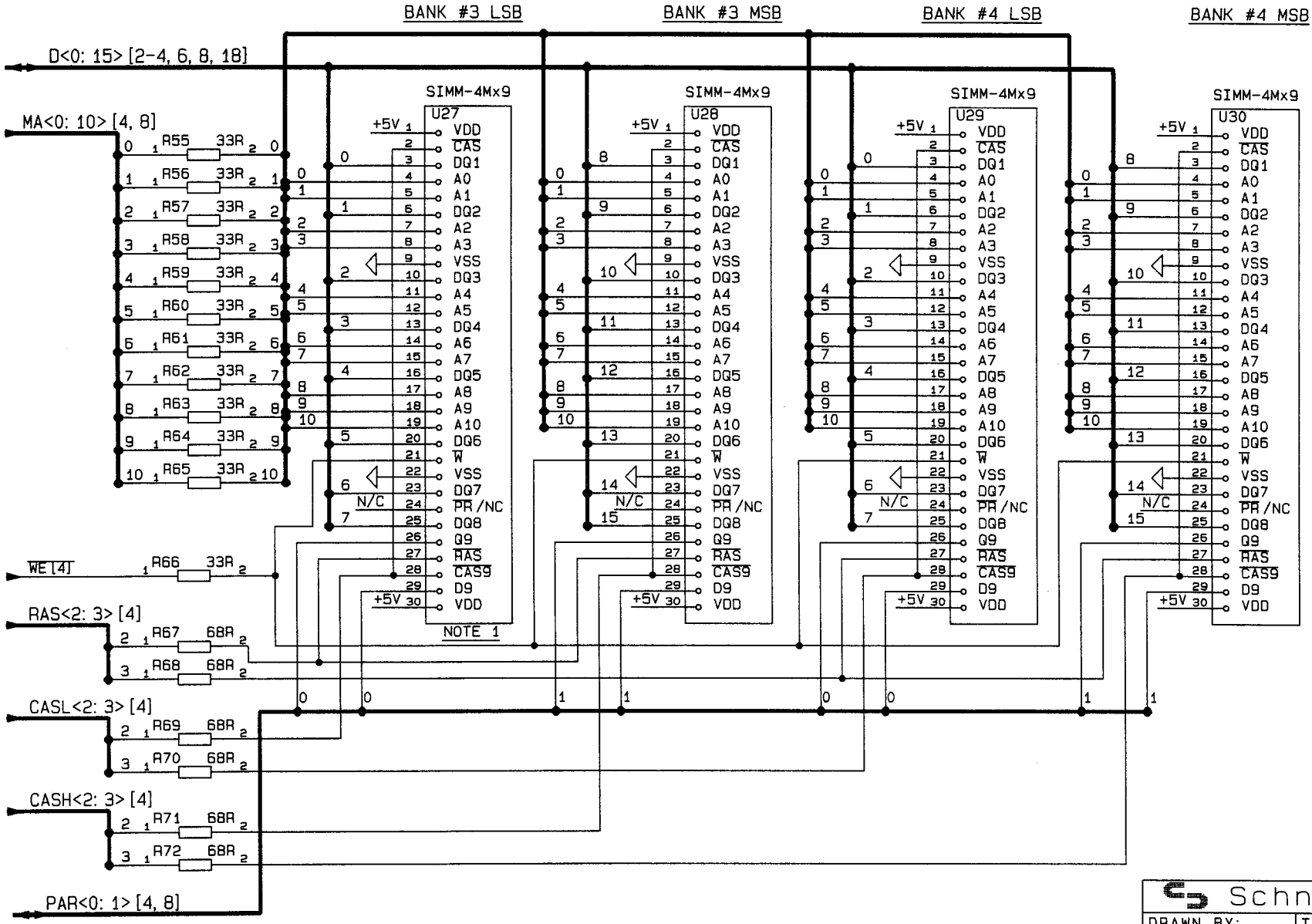
NOTES: 1) U23 .. U26 NORMALLY NOT ASSEMBLED

1 MB RAM

Schneider

DRAWN BY: H. ULLRICH	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTP SX EURO SX	SIZE A 3	52 603 53 110 53 198	REV 4
DATE: 11-23-90	SHEET: 8 of 25		

1MB-16MB ADDON RAM

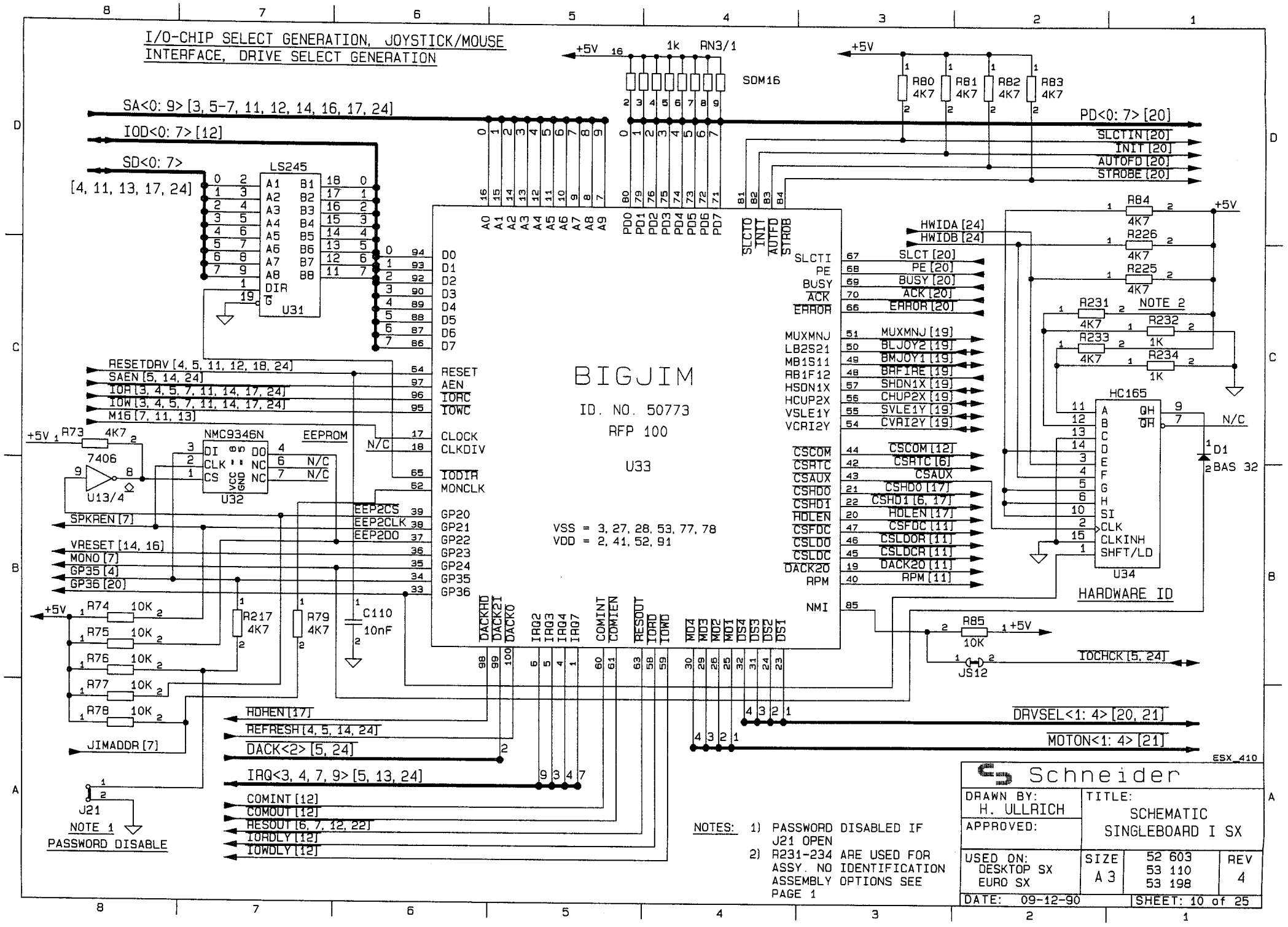


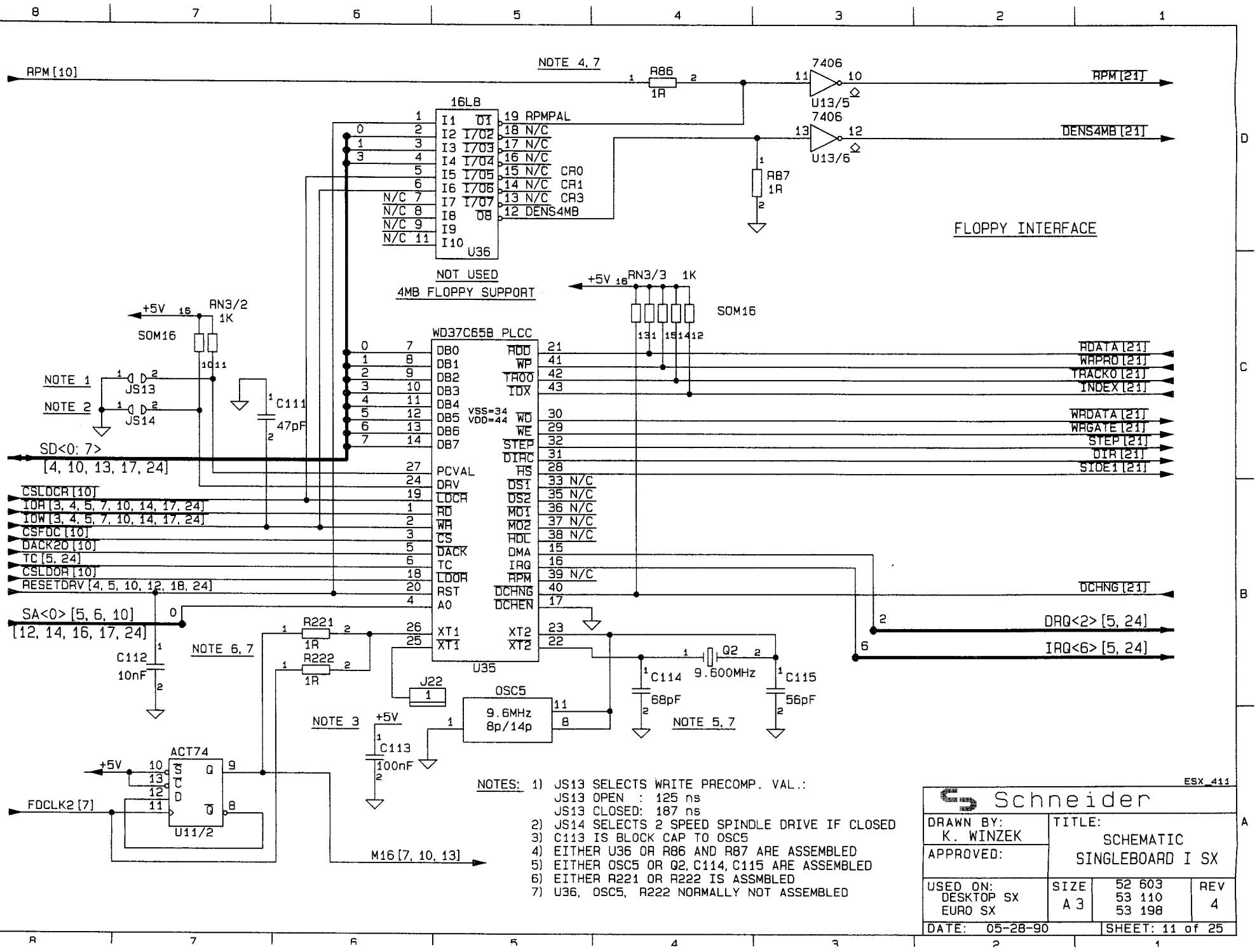
NOTES: 1) 256Kx8 (9) OR 1Mx8 (9) OR 4Mx8 (9) SIMM MODULES

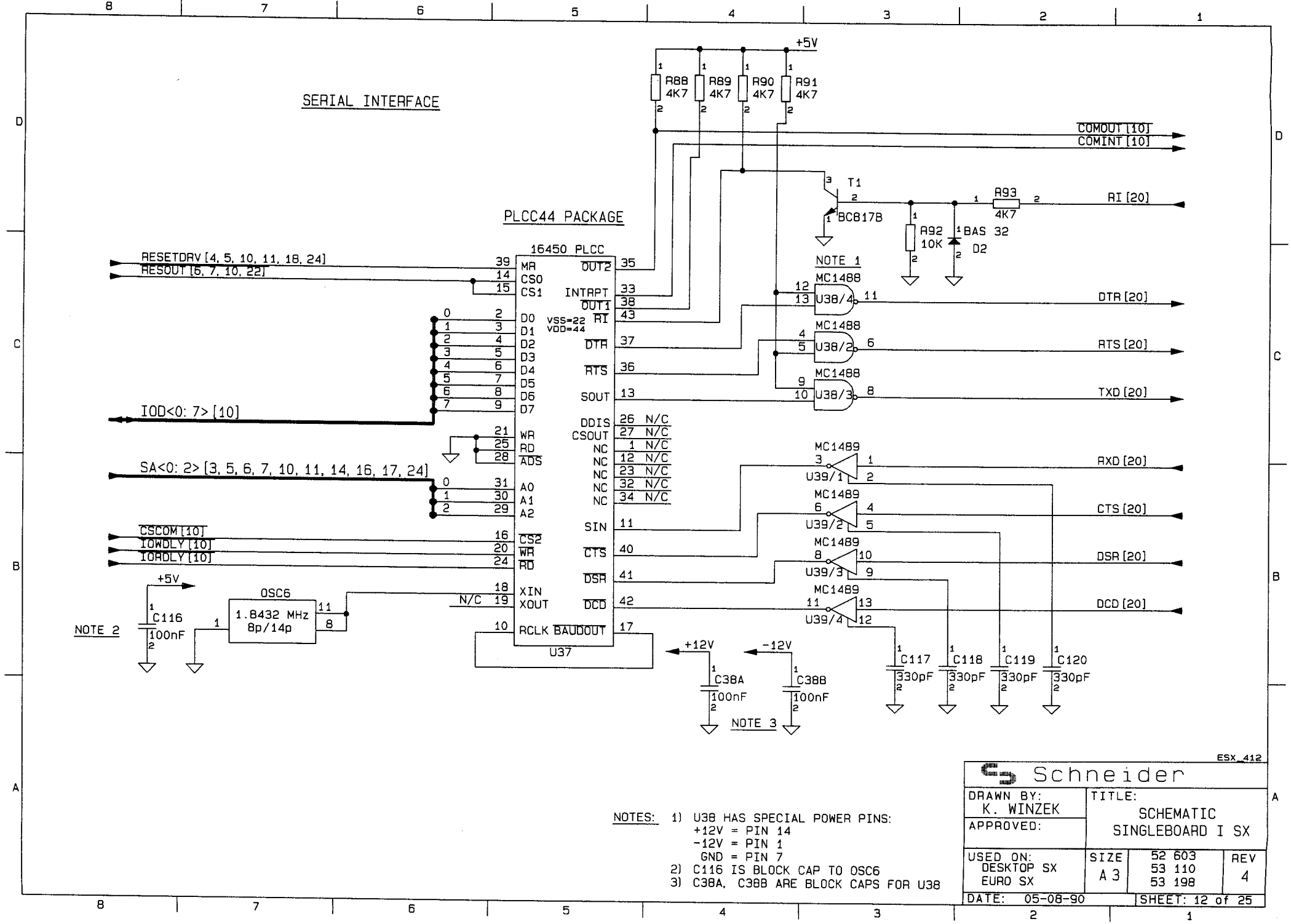
ESX_49

Schneider

DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A 3	52 603 53 110 53 198	REV 4
DATE: 11-05-90		SHEET: 9 of 25	


I/O-CHIP SELECT GENERATION, JOYSTICK/MOUSE INTERFACE, DRIVE SELECT GENERATION
SA<0: 9> [3, 5-7, 11, 12, 14, 16, 17, 24]
IOD<0: 7> [12]
SD<0: 7>
[4, 11, 13, 17, 24]
LS245
U31
BIGJIM
ID. NO. 50773
RFP 100
U33
VSS = 3, 27, 28, 53, 77, 78
VDD = 2, 41, 52, 91
RN3/1
SDM16
1k
+5V
R80 4K7
R81 4K7
R82 4K7
R83 4K7
PD<0: 7> [20]
SLCTIN [20]
INIT [20]
AUTOFD [20]
STROBE [20]
R84 4K7
R226 4K7
R225 4K7
R231 4K7
NOTE 2
R232 1K
R233 4K7
R234 1K
HC165
U34
HARDWARE ID
D1 BAS 32
N/C
HWIDA [24]
HWIDB [24]
SLCT [20]
PE [20]
BUSY [20]
ACK [20]
ERROR [20]
MUXMNJ [19]
BLJOY2 [19]
BMJOY1 [19]
BAFIRE [19]
SHDN1X [19]
CHUP2X [19]
SVLE1Y [19]
CVRI2Y [19]
CSCOM [12]
CSRTC [6]
CSAUX
CSHD0 [17]
CSHD1 [6, 17]
HDLEN [17]
CSFDC [11]
CSLDOR [11]
CSLDCR [11]
DACK20 [11]
RPM [11]
R85 10K
JS12
IOCHCK [5, 24]
RESETDRV [4, 5, 11, 12, 18, 24]
SAEN [5, 14, 24]
IOR [3, 4, 5, 7, 11, 14, 17, 24]
IOW [3, 4, 5, 7, 11, 14, 17, 24]
M16 [7, 11, 13]
NMC9346N
EEPROM
U32
7406
U13/4
R73 4K7
SPKREN [7]
VRESET [14, 16]
MONO [7]
GP35 [4]
GP36 [20]
R74 10K
R75 10K
R76 10K
R77 10K
R78 10K
R217 4K7
R79 4K7
C110 10nF
JIMADDR [7]
J21
NOTE 1
PASSWORD DISABLE
HDHEN [17]
REFRESH [4, 5, 14, 24]
DACK<2> [5, 24]
IRQ<3, 4, 7, 9> [5, 13, 24]
COMINT [12]
COMOUT [12]
RESOUT [6, 7, 12, 22]
IORDLY [12]
IOWDLY [12]
DRVSEL<1: 4> [20, 21]
MOTON<1: 4> [21]
NOTES: 1) PASSWORD DISABLED IF J21 OPEN
2) R231-234 ARE USED FOR ASSY. NO IDENTIFICATION ASSEMBLY OPTIONS SEE PAGE 1
ESX_410
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603
53 110
53 198
REV 4
DATE: 09-12-90
SHEET: 10 of 25

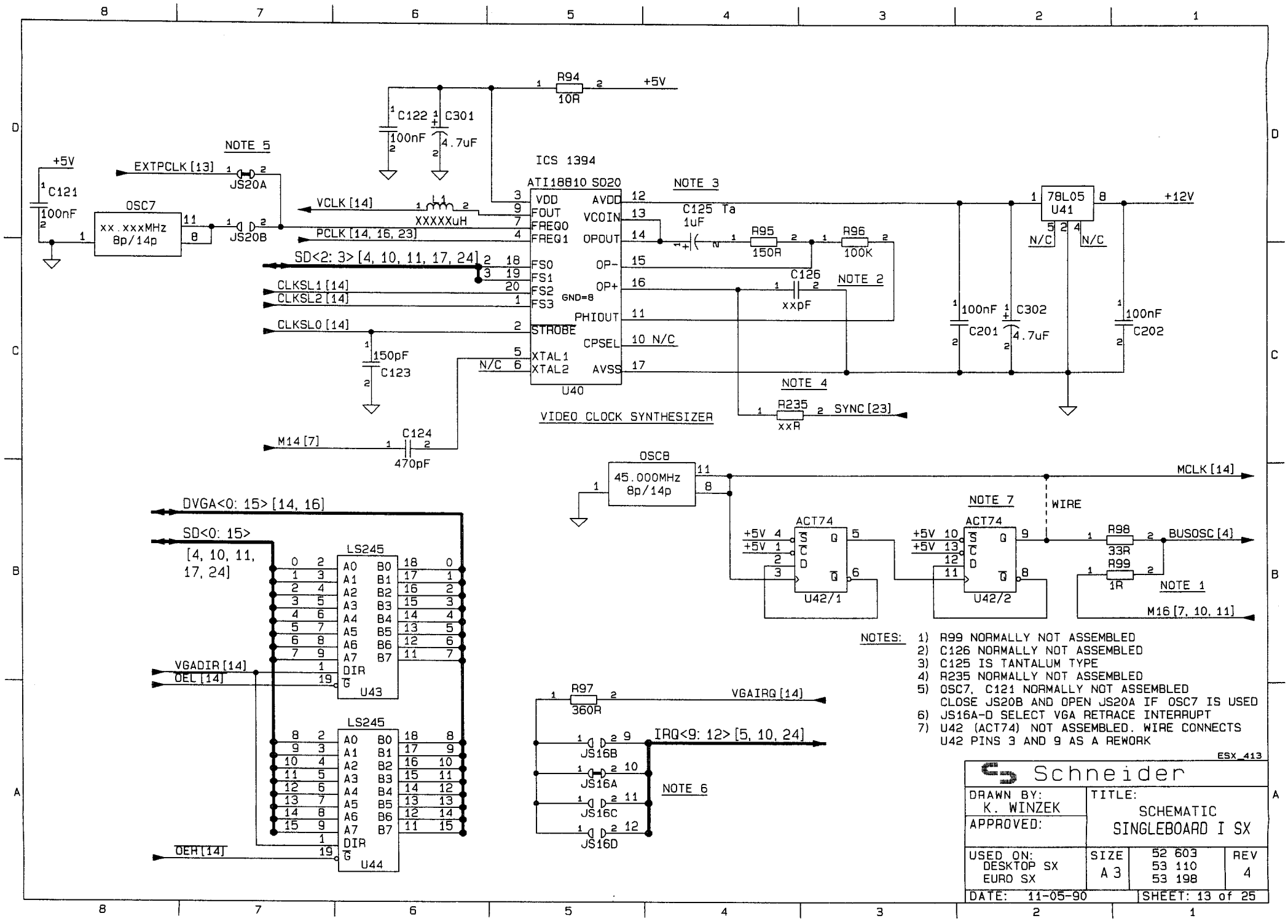

FLOPPY INTERFACE
RPM[10]
NOTE 4, 7
R86
1R
7406
U13/5
RPM[21]
DENS4MB[21]
U13/6
R87
1R
16L8
U36
RPMPAL
N/C
CR0
CR1
CR3
DENS4MB
NOT USED
4MB FLOPPY SUPPORT
RN3/2
RN3/3
1K
SOM16
WD37C65B PLCC
U35
VSS=34
VDD=44
NOTE 1
NOTE 2
JS13
JS14
C111
47pF
SD<0:7>
[4, 10, 13, 17, 24]
CSLDCR[10]
IOR[3, 4, 5, 7, 10, 14, 17, 24]
IOW[3, 4, 5, 7, 10, 14, 17, 24]
CSFDC[10]
DACK2O[10]
TC[5, 24]
CSLDOR[10]
RESETDRV[4, 5, 10, 12, 18, 24]
SA<0>[5, 6, 10]
[12, 14, 16, 17, 24]
RDATA[21]
WAPRO[21]
TRACK0[21]
INDEX[21]
WRDATA[21]
WRGATE[21]
STEP[21]
DIR[21]
SIDE1[21]
DCHNG[21]
DRQ<2>[5, 24]
IRQ<6>[5, 24]
R221
R222
C112
10nF
NOTE 6, 7
J22
OSC5
9.6MHz
8p/14p
Q2
9.600MHz
C114
68pF
C115
56pF
NOTE 5, 7
NOTE 3
C113
100nF
ACT74
U11/2
FDCLK2[7]
M16[7, 10, 13]
NOTES: 1) JS13 SELECTS WRITE PRECOMP. VAL.:
JS13 OPEN : 125 ns
JS13 CLOSED: 187 ns
2) JS14 SELECTS 2 SPEED SPINDLE DRIVE IF CLOSED
3) C113 IS BLOCK CAP TO OSC5
4) EITHER U36 OR R86 AND R87 ARE ASSEMBLED
5) EITHER OSC5 OR Q2, C114, C115 ARE ASSEMBLED
6) EITHER R221 OR R222 IS ASSMBLED
7) U36, OSC5, R222 NORMALLY NOT ASSEMBLED
ESX_411
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 05-28-90
SHEET: 11 of 25



NOTES:
1) U38 HAS SPECIAL POWER PINS:
   +12V = PIN 14
   -12V = PIN 1
   GND = PIN 7
2) C116 IS BLOCK CAP TO OSC6
3) C38A, C38B ARE BLOCK CAPS FOR U38

ESX_412

Schneider			
DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A3	52 603 53 110 53 198	REV 4
DATE: 05-08-90	SHEET: 12 of 25		



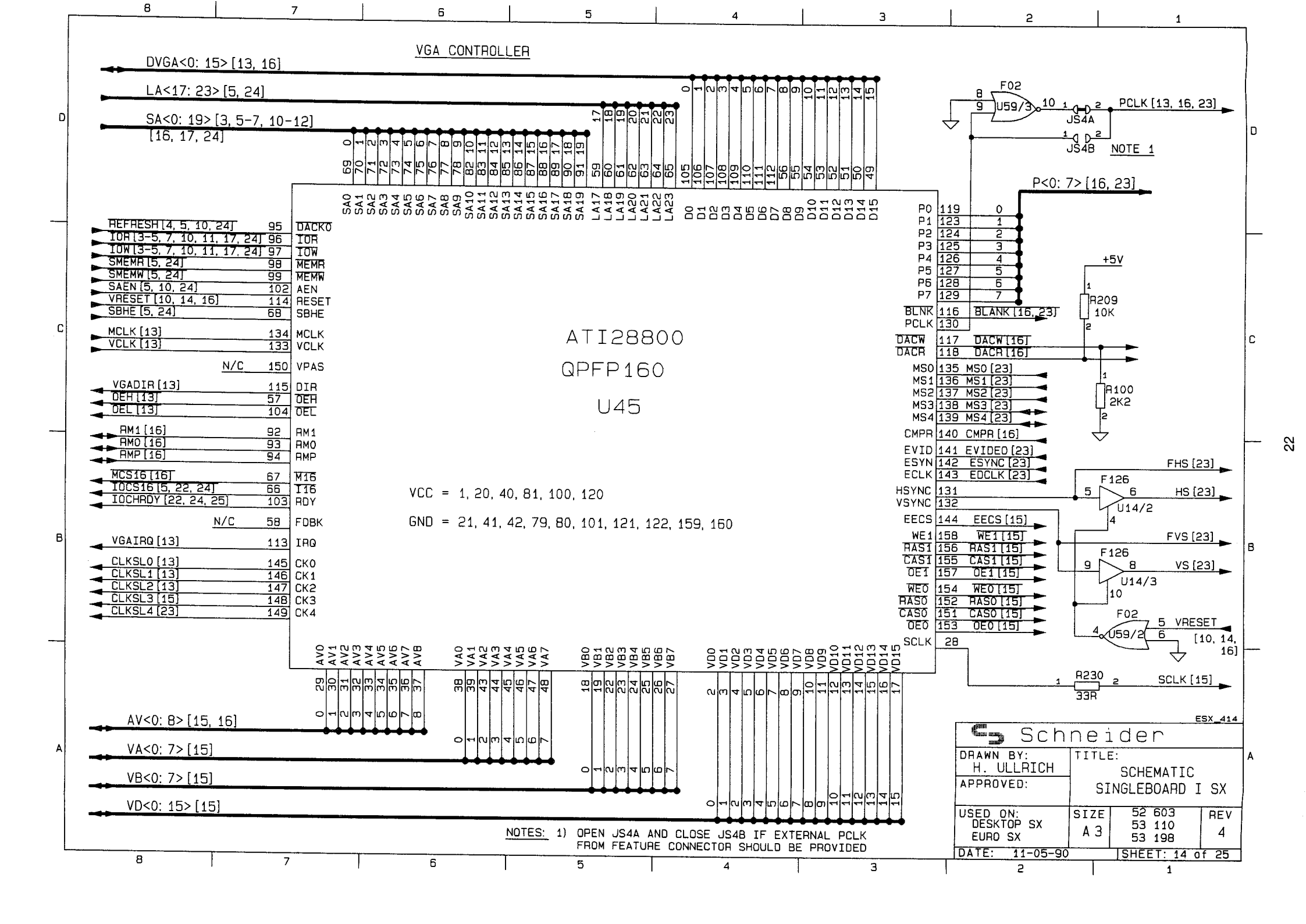
NOTES:
1) R99 NORMALLY NOT ASSEMBLED
2) C126 NORMALLY NOT ASSEMBLED
3) C125 IS TANTALUM TYPE
4) R235 NORMALLY NOT ASSEMBLED
5) OSC7, C121 NORMALLY NOT ASSEMBLED
   CLOSE JS20B AND OPEN JS20A IF OSC7 IS USED
6) JS16A-D SELECT VGA RETRACE INTERRUPT
7) U42 (ACT74) NOT ASSEMBLED. WIRE CONNECTS
   U42 PINS 3 AND 9 AS A REWORK

ESX_413

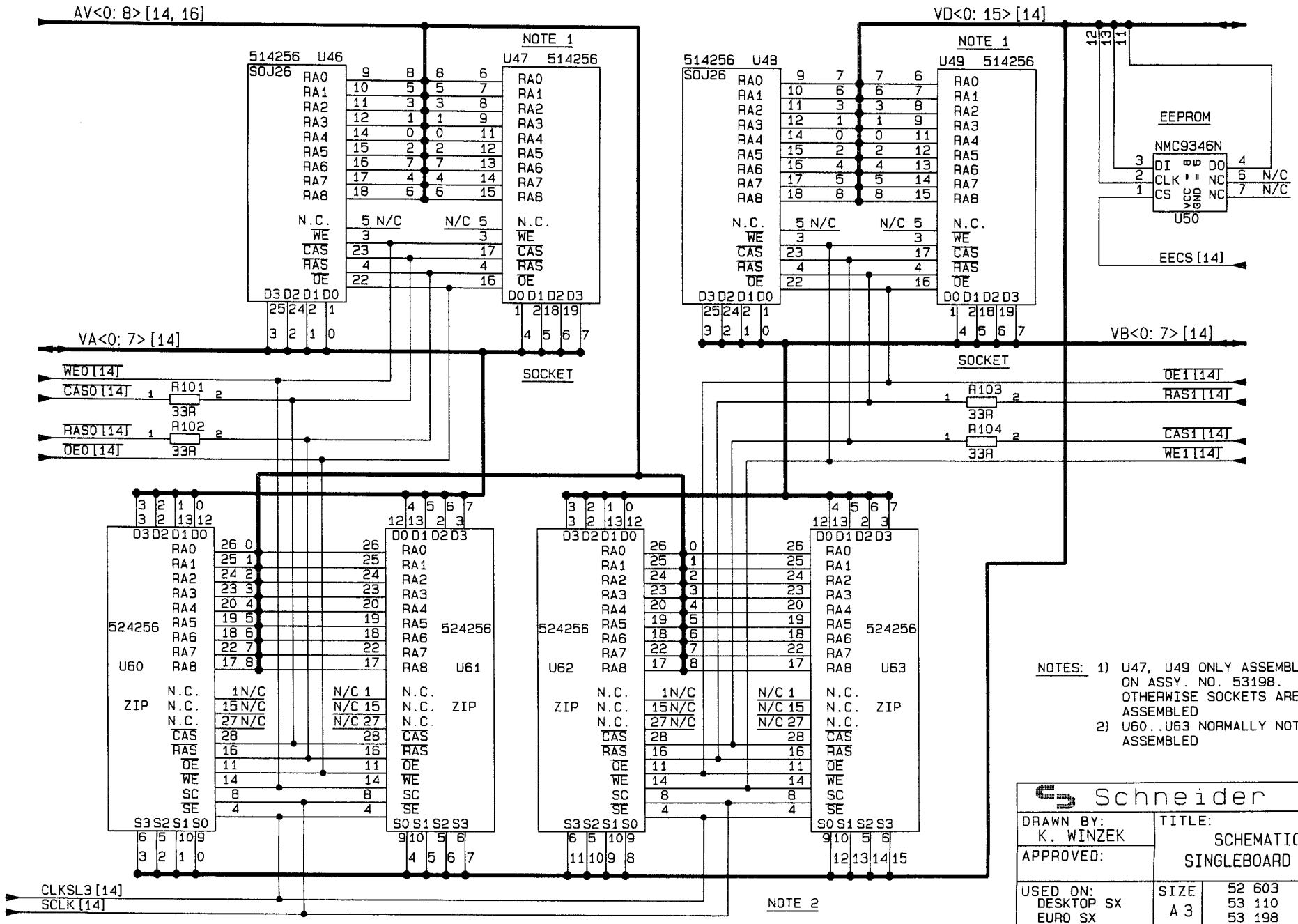
Schneider

DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A3	52 603 53 110 53 198	REV 4
DATE: 11-05-90	SHEET: 13 of 25		

21


VGA CONTROLLER
DVGA<0: 15> [13, 16]
LA<17: 23> [5, 24]
SA<0: 19> [3, 5-7, 10-12] [16, 17, 24]
ATI28800
QPFP160
U45
VCC = 1, 20, 40, 81, 100, 120
GND = 21, 41, 42, 79, 80, 101, 121, 122, 159, 160
REFRESH [4, 5, 10, 24]
IOR [3-5, 7, 10, 11, 17, 24]
IOW [3-5, 7, 10, 11, 17, 24]
SMEMR [5, 24]
SMEMW [5, 24]
SAEN [5, 10, 24]
VRESET [10, 14, 16]
SBHE [5, 24]
MCLK [13]
VCLK [13]
VGADIR [13]
OEH [13]
OEL [13]
AM1 [16]
AM0 [16]
AMP [16]
MCS16 [16]
IOCS16 [5, 22, 24]
IOCHRDY [22, 24, 25]
VGAIRQ [13]
CLKSL0 [13]
CLKSL1 [13]
CLKSL2 [13]
CLKSL3 [15]
CLKSL4 [23]
AV<0: 8> [15, 16]
VA<0: 7> [15]
VB<0: 7> [15]
VD<0: 15> [15]
F02
U59/3
PCLK [13, 16, 23]
JS4A
JS4B
NOTE 1
P<0: 7> [16, 23]
BLANK [16, 23]
+5V
R209
10K
R100
2K2
DACW [16]
DACR [16]
MS0 [23]
MS1 [23]
MS2 [23]
MS3 [23]
MS4 [23]
CMPR [16]
EVIDEO [23]
ESYNC [23]
EDCLK [23]
FHS [23]
F126
U14/2
HS [23]
FVS [23]
U14/3
VS [23]
U59/2
VRESET [10, 14, 16]
EECS [15]
WE1 [15]
RAS1 [15]
CAS1 [15]
OE1 [15]
WE0 [15]
RAS0 [15]
CAS0 [15]
OE0 [15]
R230
33R
SCLK [15]
NOTES: 1) OPEN JS4A AND CLOSE JS4B IF EXTERNAL PCLK FROM FEATURE CONNECTOR SHOULD BE PROVIDED
ESX_414
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 11-05-90
SHEET: 14 of 25

VGA RAM

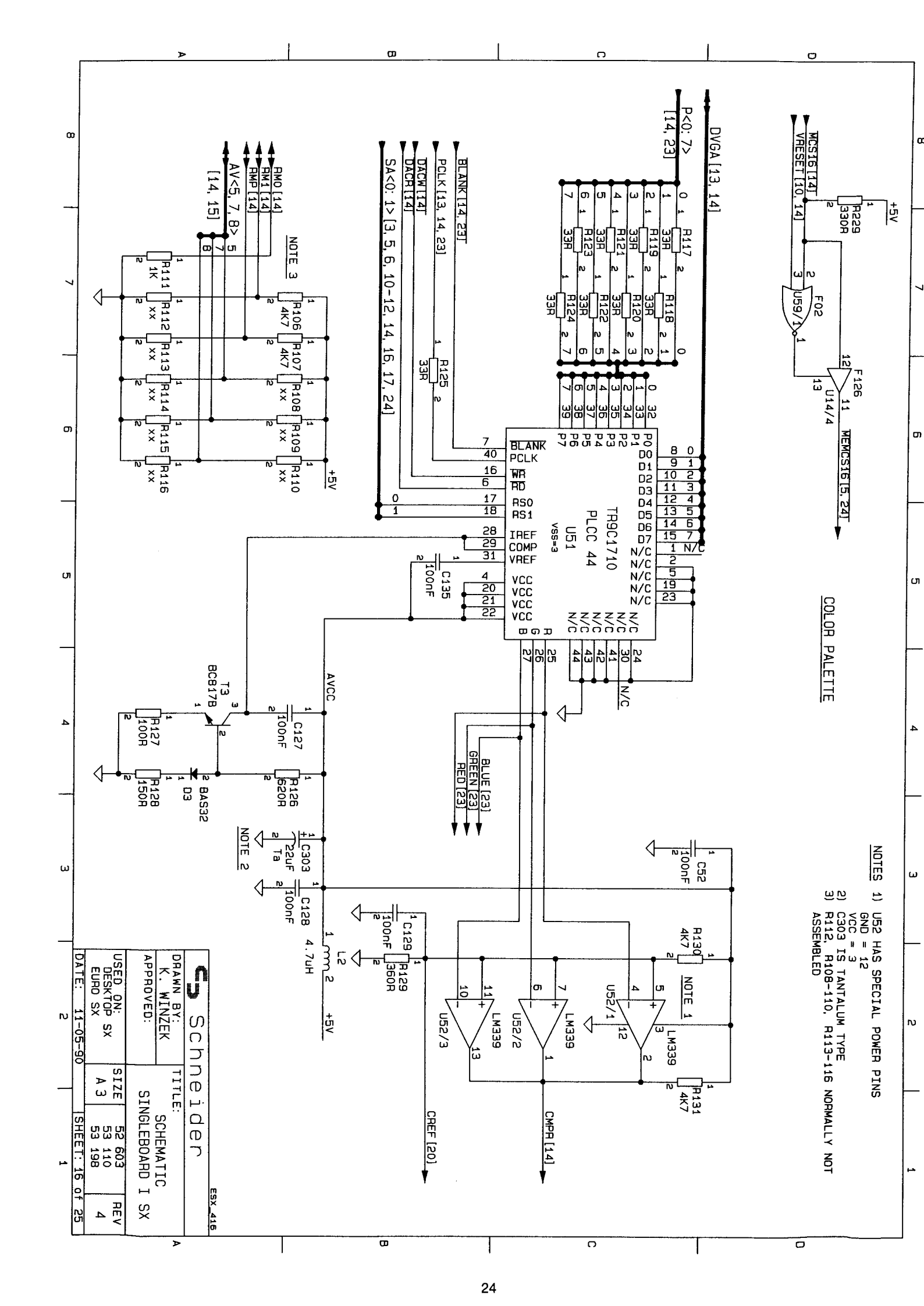


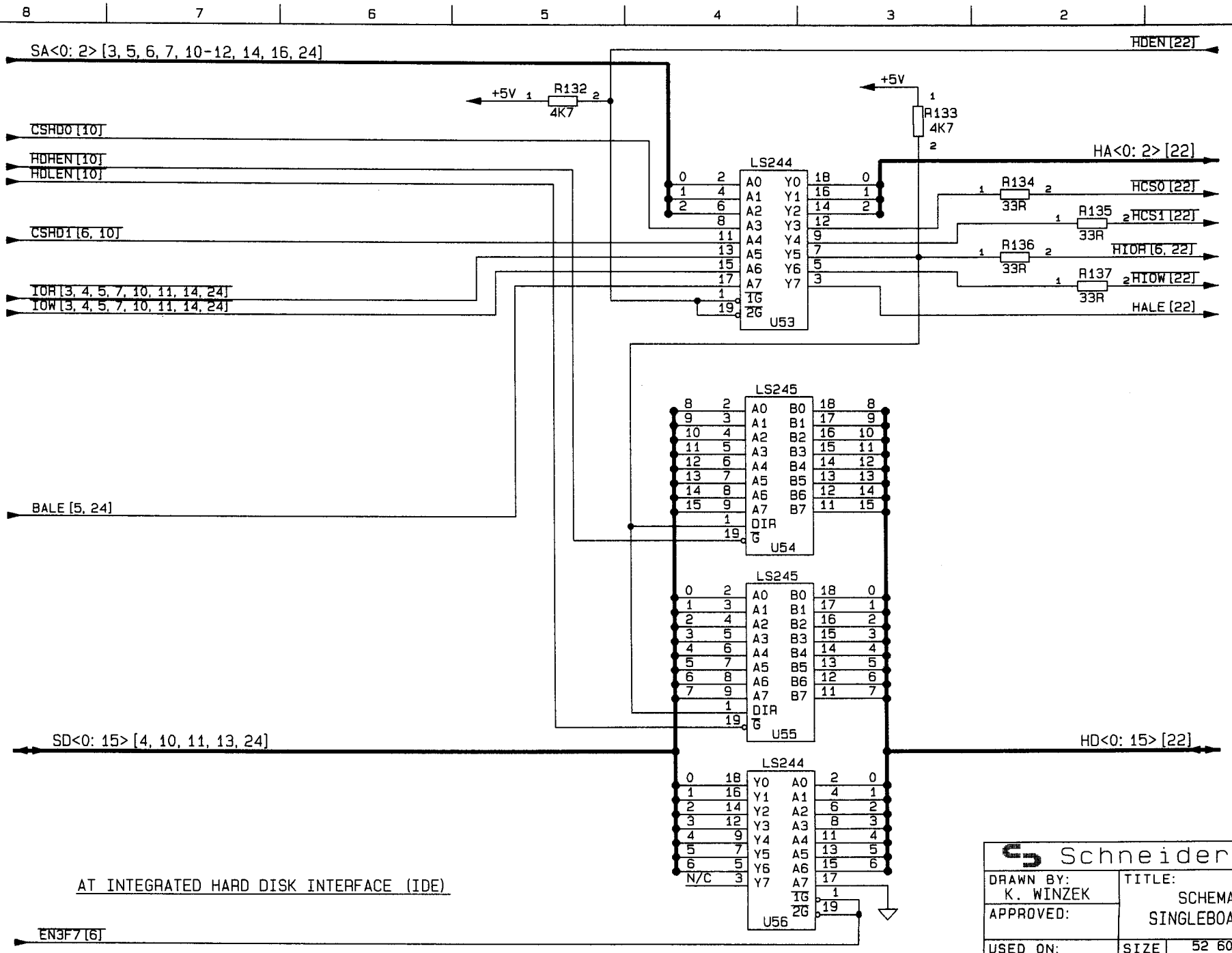
NOTES:
1) U47, U49 ONLY ASSEMBLED ON ASSY. NO. 53198. OTHERWISE SOCKETS ARE ASSEMBLED
2) U60..U63 NORMALLY NOT ASSEMBLED

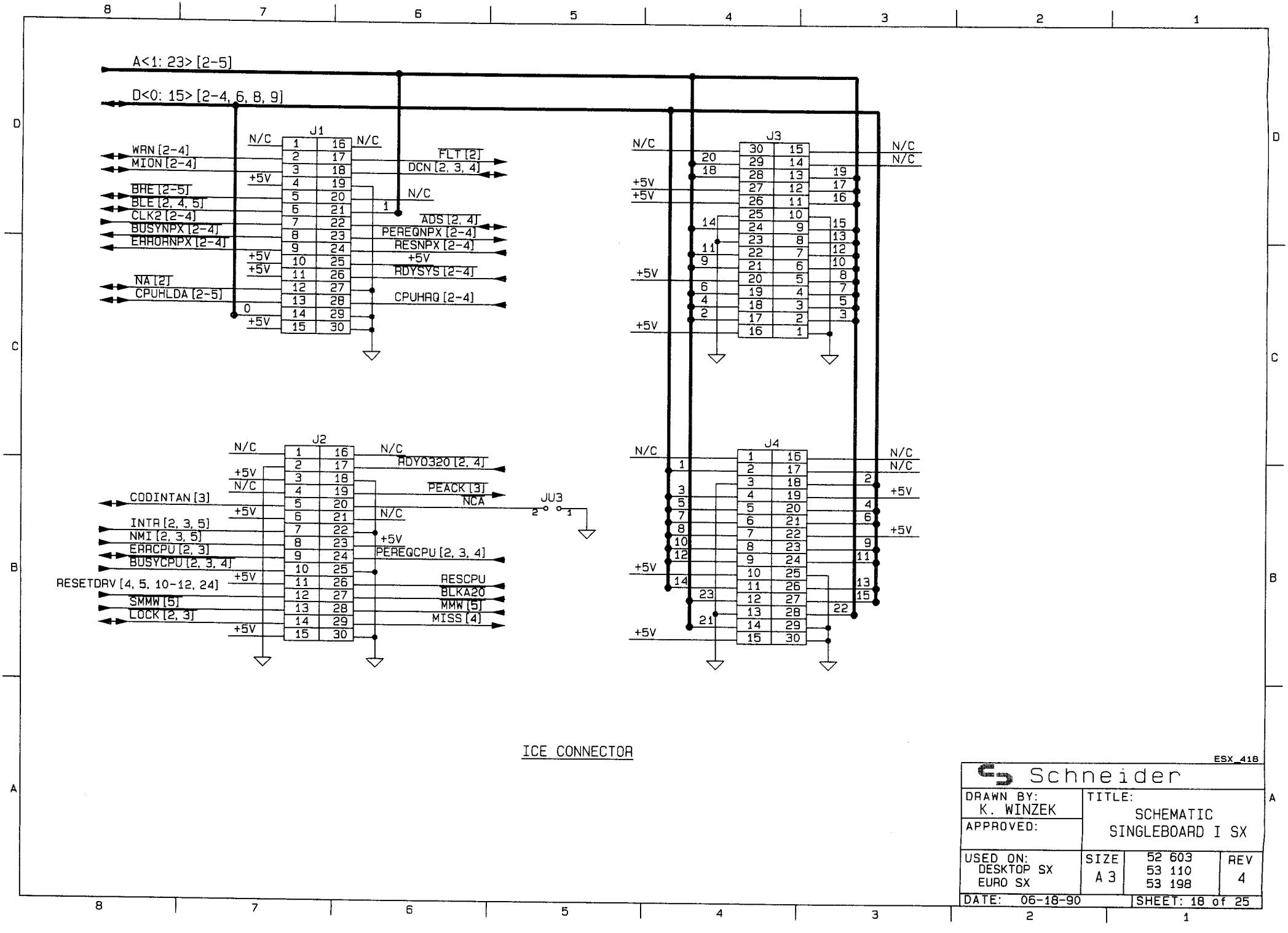
ESX_415

Schneider

DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A3	52 603 53 110 53 198	REV 4
DATE: 08-13-90	SHEET: 15 of 25		


COLOR PALETTE
TR9C1710
PLCC 44
U51
NOTES 1) U52 HAS SPECIAL POWER PINS
GND = 12
VCC = 5
2) C303 IS TANTALUM TYPE
3) R112, R108-110, R113-116 NORMALLY NOT ASSEMBLED
NOTE 1
NOTE 2
NOTE 3
DVGA [13, 14]
P<0: 7> [14, 23]
BLANK [14, 23]
PCLK [13, 14, 23]
DACW [14]
DACR [14]
SA<0: 1> [3, 5, 6, 10-12, 14, 16, 17, 24]
AV<5, 7, 8> [14, 15]
AM0 [14]
AM1 [14]
AMP [14]
MCS16 [14]
VRESET [10, 14]
MEMCS16 [5, 24]
BLUE [23]
GREEN [23]
RED [23]
CREF [20]
CMPR [14]
AVCC
+5V
LM339
BC817B
BAS32
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 11-05-90
SHEET: 16 of 25
ESX_416


SA<0: 2> [3, 5, 6, 7, 10-12, 14, 16, 24]
HDEN [22]
+5V
R132
4K7
+5V
R133
4K7
CSHD0 [10]
HDHEN [10]
HDLEN [10]
HA<0: 2> [22]
LS244
A0 A1 A2 A3 A4 A5 A6 A7
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
1G 2G
U53
R134
33R
HCS0 [22]
R135
33R
HCS1 [22]
CSHD1 [6, 10]
R136
33R
HIOR [6, 22]
R137
33R
HIOW [22]
IOR [3, 4, 5, 7, 10, 11, 14, 24]
IOW [3, 4, 5, 7, 10, 11, 14, 24]
HALE [22]
LS245
A0 A1 A2 A3 A4 A5 A6 A7
B0 B1 B2 B3 B4 B5 B6 B7
DIR
G
U54
BALE [5, 24]
LS245
U55
SD<0: 15> [4, 10, 11, 13, 24]
HD<0: 15> [22]
LS244
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
A0 A1 A2 A3 A4 A5 A6 A7
1G 2G
U56
N/C
AT INTEGRATED HARD DISK INTERFACE (IDE)
EN3F7 [6]
ESX_417
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 05-08-90
SHEET: 17 of 25

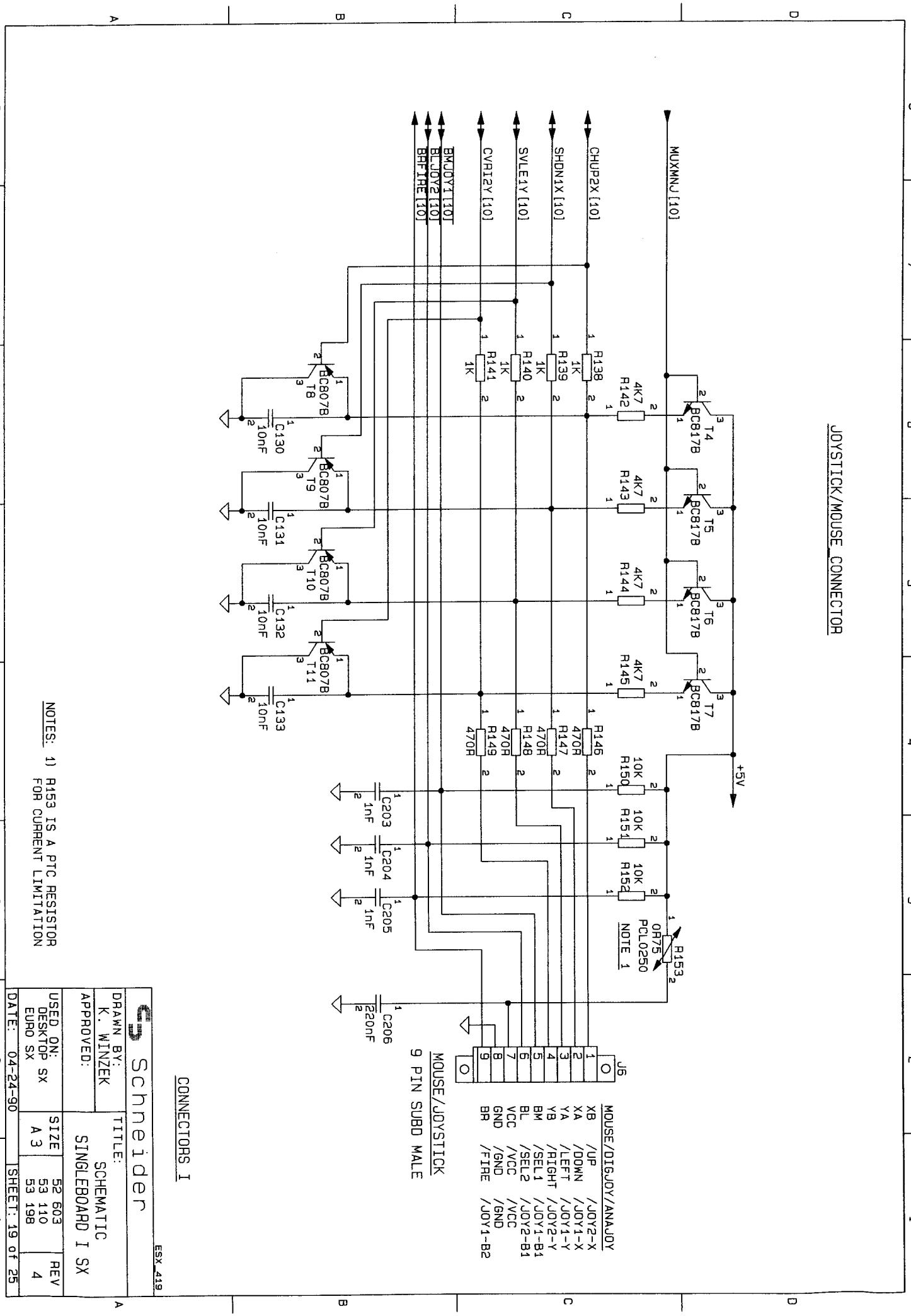


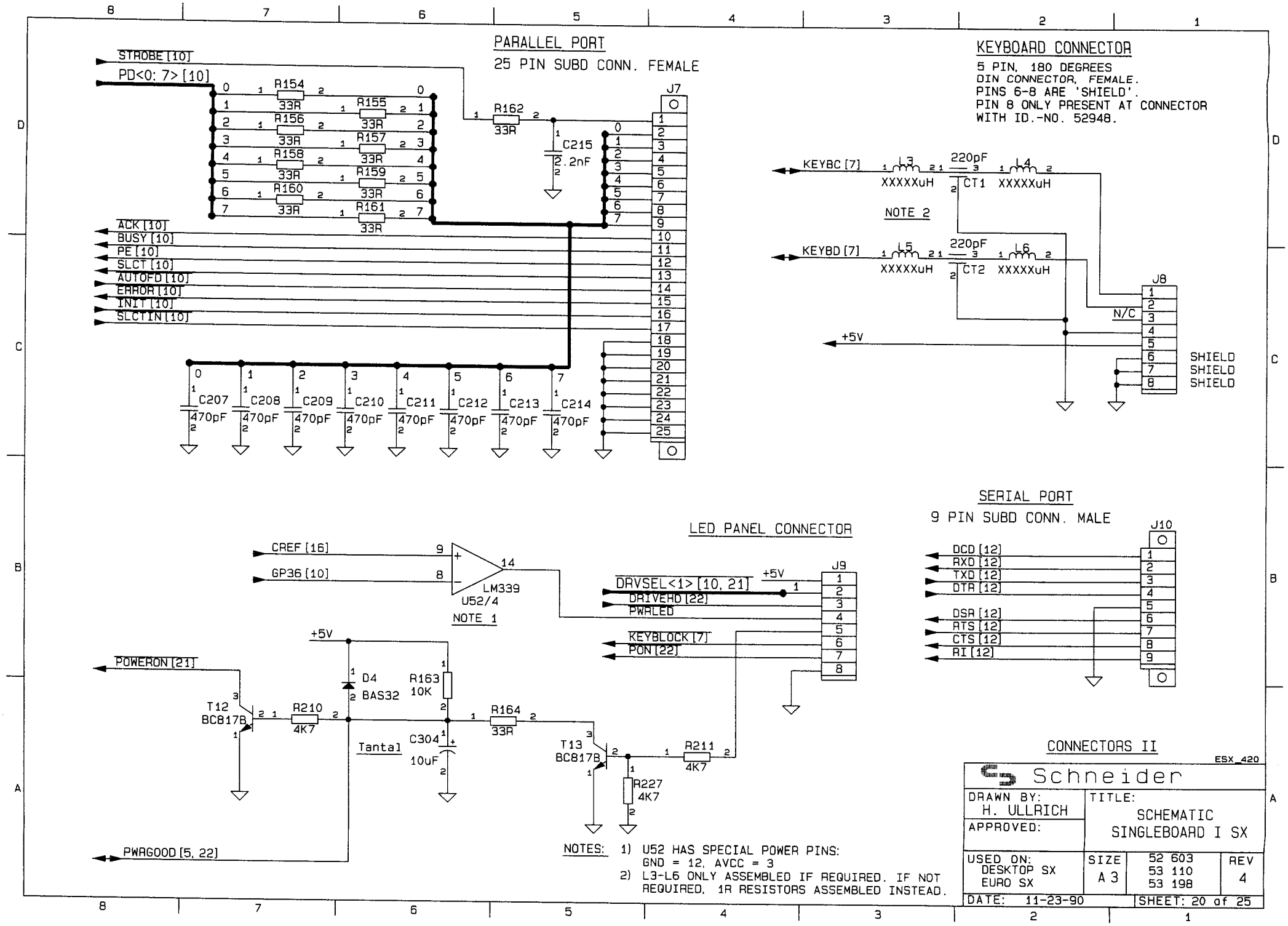
ICE CONNECTOR

ESX_418

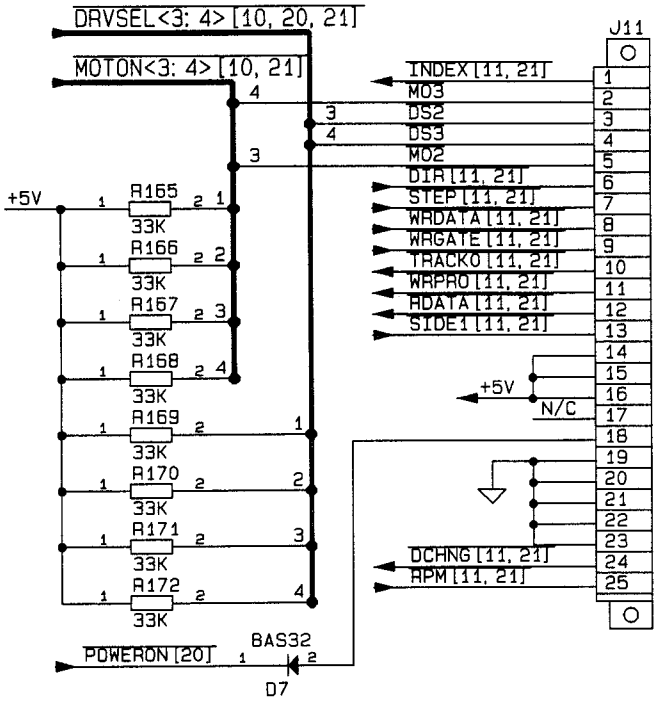
Schneider

DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A 3	52 603 53 110 53 198	REV 4
DATE: 06-18-90		SHEET: 18 of 25	

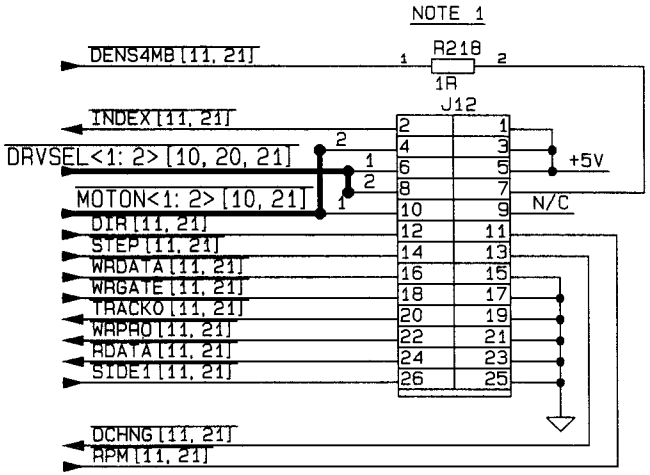

JOYSTICK/MOUSE_CONNECTOR
MUXMNJ [10]
CHUP2X [10]
SHDN1X [10]
SYLE1Y [10]
CYAI2Y [10]
BMJOY1 [10]
BLJOY2 [10]
BAFIRE [10]
+5V
T4 BC817B
T5 BC817B
T6 BC817B
T7 BC817B
T8 BC807B
T9 BC807B
T10 BC807B
T11 BC807B
R138 1K
R139 1K
R140 1K
R141 1K
R142 4K7
R143 4K7
R144 4K7
R145 4K7
R146 470R
R147 470R
R148 470R
R149 470R
R150 10K
R151 10K
R152 10K
R153 0R75 PCL0250 NOTE 1
C130 10nF
C131 10nF
C132 10nF
C133 10nF
C203 1nF
C204 1nF
C205 1nF
C206 220nF
J6
MOUSE/DIGJOY/ANAJOY
XB /UP /JOY2-X
XA /DOWN /JOY1-X
YA /LEFT /JOY1-Y
YB /RIGHT /JOY2-Y
BM /SEL1 /JOY1-B1
BL /SEL2 /JOY2-B1
VCC /VCC /VCC
GND /GND /GND
BR /FIRE /JOY1-B2
MOUSE/JOYSTICK
9 PIN SUBD MALE
NOTES: 1) R153 IS A PTC RESISTOR FOR CURRENT LIMITATION
CONNECTORS I
Schneider
ESX_419
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603 53 110 53 198
REV 4
DATE: 04-24-90
SHEET: 19 of 25


PARALLEL PORT
25 PIN SUBD CONN. FEMALE
STROBE [10]
PD<0: 7> [10]
R154 33R
R155 33R
R156 33R
R157 33R
R158 33R
R159 33R
R160 33R
R161 33R
R162 33R
C215 2.2nF
J7
ACK [10]
BUSY [10]
PE [10]
SLCT [10]
AUTOFD [10]
ERROR [10]
INIT [10]
SLCTIN [10]
C207 470pF
C208 470pF
C209 470pF
C210 470pF
C211 470pF
C212 470pF
C213 470pF
C214 470pF
KEYBOARD CONNECTOR
5 PIN, 180 DEGREES
DIN CONNECTOR, FEMALE.
PINS 6-8 ARE 'SHIELD'.
PIN 8 ONLY PRESENT AT CONNECTOR
WITH ID.-NO. 52948.
KEYBC [7]
KEYBD [7]
L3 XXXXXuH
L4 XXXXXuH
L5 XXXXXuH
L6 XXXXXuH
220pF
CT1 XXXXXuH
CT2 XXXXXuH
NOTE 2
J8
N/C
+5V
SHIELD
SHIELD
SHIELD
SERIAL PORT
9 PIN SUBD CONN. MALE
J10
DCD [12]
RXD [12]
TXD [12]
DTR [12]
DSR [12]
RTS [12]
CTS [12]
RI [12]
LED PANEL CONNECTOR
J9
CREF [16]
GP36 [10]
LM339
U52/4
NOTE 1
DRVSEL<1> [10, 21]
DRIVEHD [22]
PWRLED
KEYBLOCK [7]
PON [22]
+5V
POWERON [21]
T12 BC817B
R210 4K7
D4 BAS32
R163 10K
R164 33R
C304 10uF
Tantal
T13 BC817B
R211 4K7
R227 4K7
PWRGOOD [5, 22]
NOTES: 1) U52 HAS SPECIAL POWER PINS:
GND = 12, AVCC = 3
2) L3-L6 ONLY ASSEMBLED IF REQUIRED. IF NOT
REQUIRED, 1R RESISTORS ASSEMBLED INSTEAD.
CONNECTORS II
ESX_420
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603
53 110
53 198
REV 4
DATE: 11-23-90
SHEET: 20 of 25

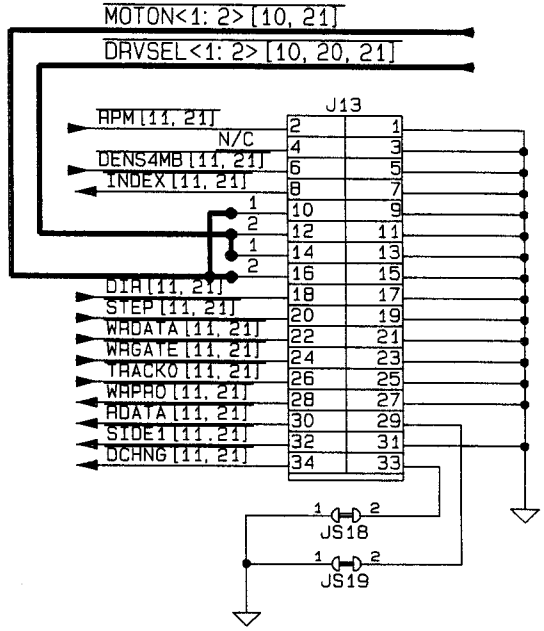
FLOPPY EXTERN
25 PIN SUBD CONN. FEMALE



FLOPPY INTERN
HEADER DUAL ROW 26 PIN



FLOPPY INTERN
HEADER DUAL ROW 34 PIN

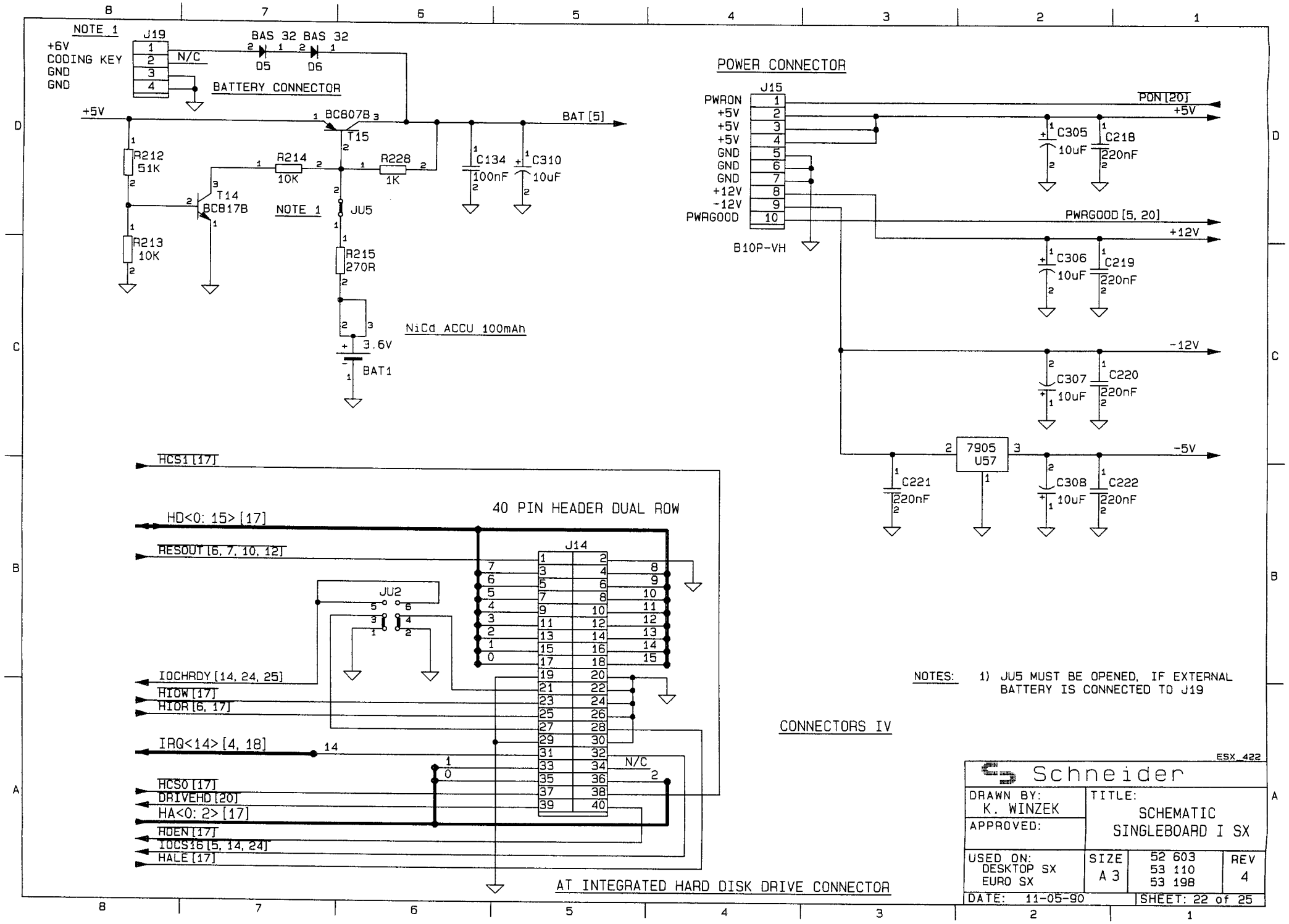


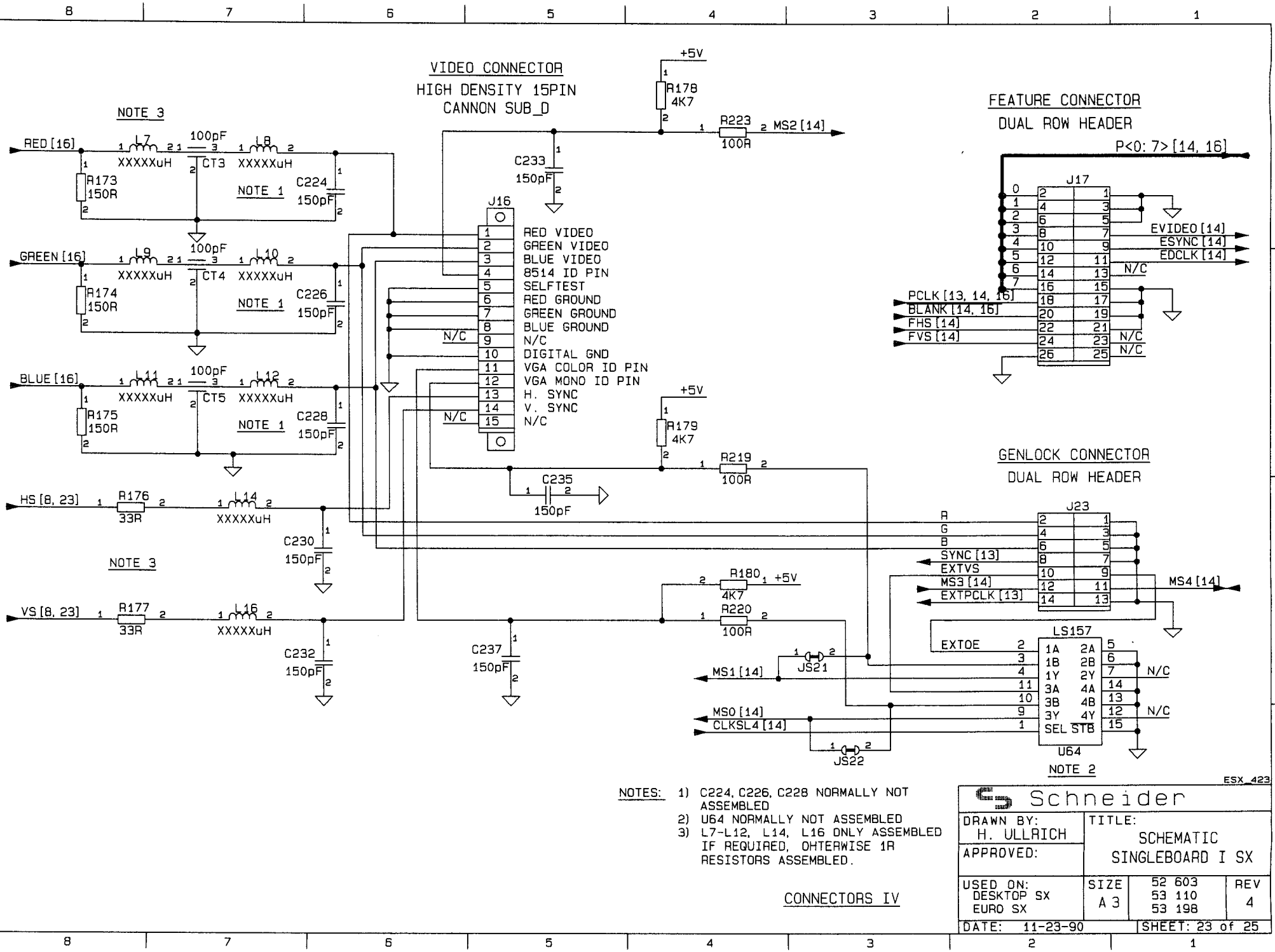
CONNECTORS III

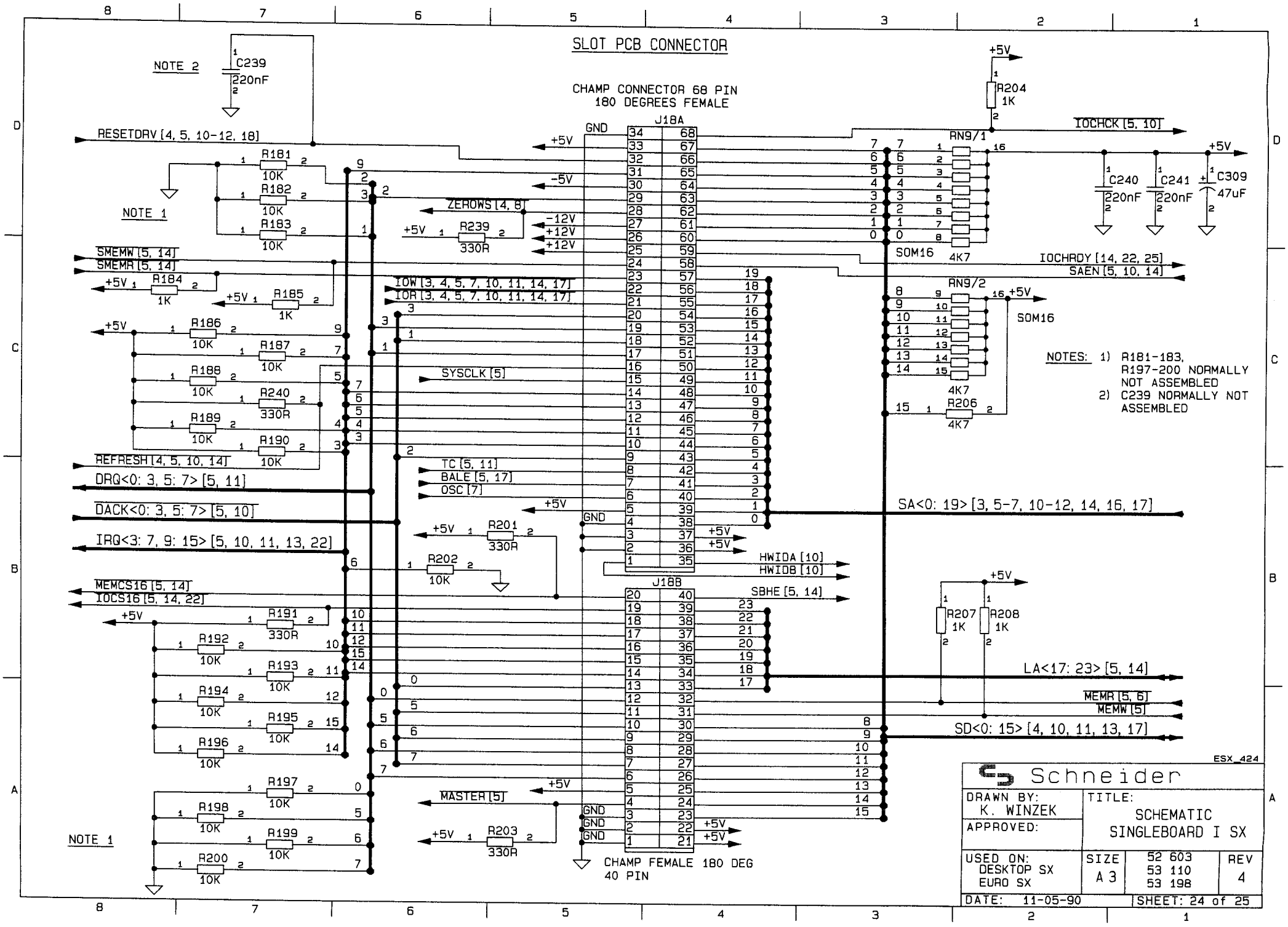
NOTES: 1) R218 NORMALLY NOT ASSEMBLED

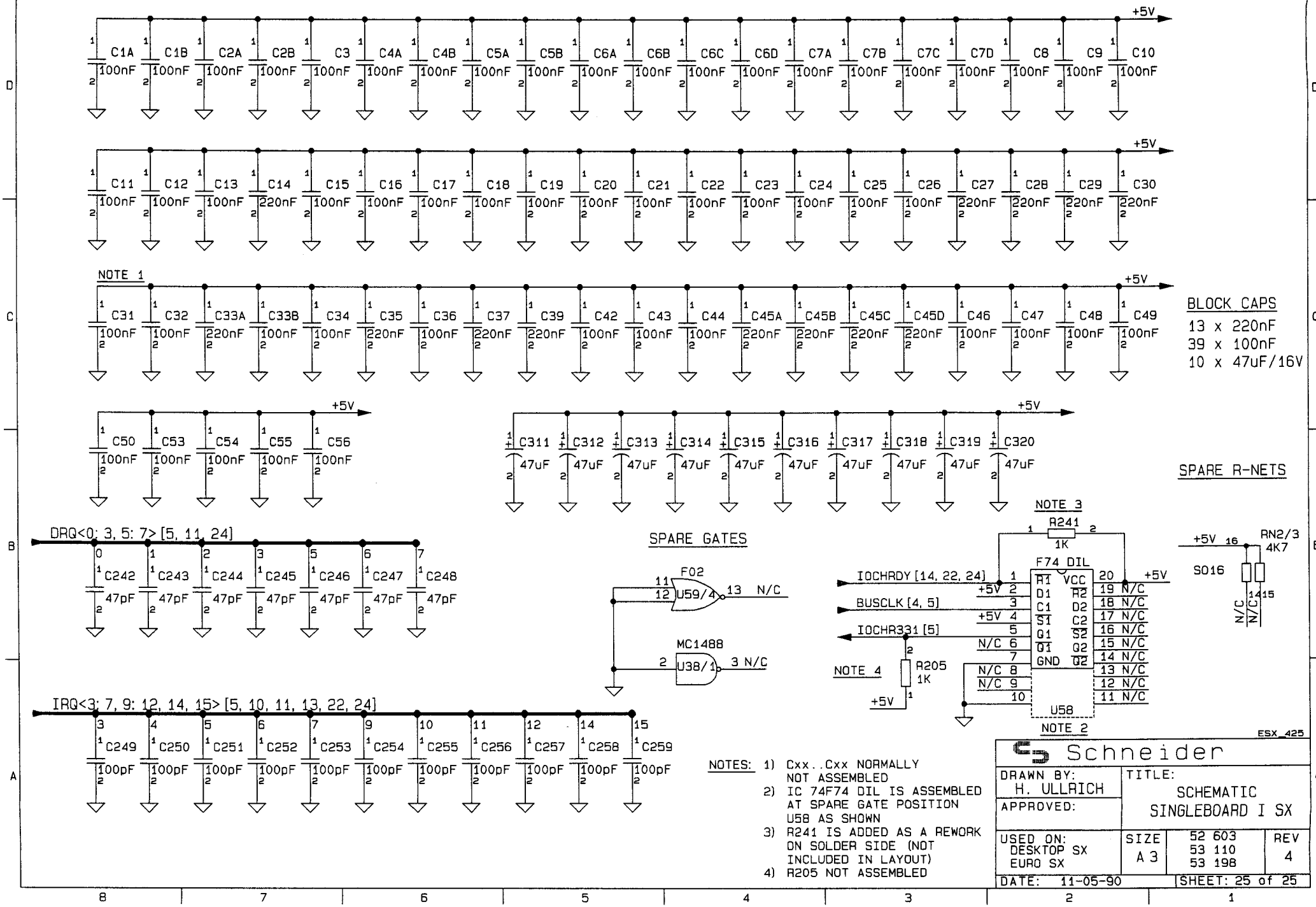
ESX_421

Schneider			
DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SINGLEBOARD I SX		
APPROVED:			
USED ON: DESKTOP SX EURO SX	SIZE A 3	52 603 53 110 53 198	REV 4
DATE: 06-28-90		SHEET: 21 of 25	


NOTE 1
J19
+6V
CODING KEY
GND
GND
N/C
BAS 32 BAS 32
D5
D6
BATTERY CONNECTOR
+5V
BC807B
T15
BAT [5]
R212
51K
R214
10K
R228
1K
C134
100nF
C310
10uF
T14
BC817B
NOTE 1
JU5
R213
10K
R215
270R
NiCd ACCU 100mAh
3.6V
BAT1
POWER CONNECTOR
J15
PWRON
+5V
+5V
+5V
GND
GND
GND
+12V
-12V
PWRGOOD
B10P-VH
PON [20]
+5V
C305
10uF
C218
220nF
PWRGOOD [5, 20]
+12V
C306
10uF
C219
220nF
-12V
C307
10uF
C220
220nF
7905
U57
-5V
C221
220nF
C308
10uF
C222
220nF
HCS1 [17]
40 PIN HEADER DUAL ROW
HD<0: 15> [17]
RESOUT [6, 7, 10, 12]
J14
JU2
IOCHRDY [14, 24, 25]
HIOW [17]
HIOR [6, 17]
IRQ<14> [4, 18]
14
N/C
HCS0 [17]
DRIVEHD [20]
HA<0: 2> [17]
HDEN [17]
IOCS16 [5, 14, 24]
HALE [17]
AT INTEGRATED HARD DISK DRIVE CONNECTOR
NOTES: 1) JU5 MUST BE OPENED, IF EXTERNAL BATTERY IS CONNECTED TO J19
CONNECTORS IV
ESX_422
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A 3
52 603
53 110
53 198
REV 4
DATE: 11-05-90
SHEET: 22 of 25


VIDEO CONNECTOR
HIGH DENSITY 15PIN
CANNON SUB_D
NOTE 3
RED [16]
GREEN [16]
BLUE [16]
HS [8, 23]
VS [8, 23]
L7 XXXXXuH
L8 XXXXXuH
L9 XXXXXuH
L10 XXXXXuH
L11 XXXXXuH
L12 XXXXXuH
L14 XXXXXuH
L16 XXXXXuH
100pF
CT3
CT4
CT5
R173 150R
R174 150R
R175 150R
R176 33R
R177 33R
NOTE 1
C224 150pF
C226 150pF
C228 150pF
C230 150pF
C232 150pF
C233 150pF
C235 150pF
C237 150pF
+5V
R178 4K7
R179 4K7
R180 4K7
R223 100R
R219 100R
R220 100R
MS2 [14]
J16
1 RED VIDEO
2 GREEN VIDEO
3 BLUE VIDEO
4 8514 ID PIN
5 SELFTEST
6 RED GROUND
7 GREEN GROUND
8 BLUE GROUND
N/C 9 N/C
10 DIGITAL GND
11 VGA COLOR ID PIN
12 VGA MONO ID PIN
13 H. SYNC
14 V. SYNC
N/C 15 N/C
FEATURE CONNECTOR
DUAL ROW HEADER
P<0: 7> [14, 16]
J17
EVIDEO [14]
ESYNC [14]
EDCLK [14]
N/C
PCLK [13, 14, 16]
BLANK [14, 16]
FHS [14]
FVS [14]
GENLOCK CONNECTOR
DUAL ROW HEADER
J23
R
G
B
SYNC [13]
EXTVS
MS3 [14]
EXTPCLK [13]
MS4 [14]
LS157
EXTOE
1A 2A
1B 2B
1Y 2Y
3A 4A
3B 4B
3Y 4Y
SEL STB
U64
NOTE 2
MS1 [14]
MS0 [14]
CLKSL4 [14]
JS21
JS22
NOTES: 1) C224, C226, C228 NORMALLY NOT ASSEMBLED
2) U64 NORMALLY NOT ASSEMBLED
3) L7-L12, L14, L16 ONLY ASSEMBLED IF REQUIRED, OHTERWISE 1R RESISTORS ASSEMBLED.
CONNECTORS IV
ESX_423
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603 53 110 53 198
REV 4
DATE: 11-23-90
SHEET: 23 of 25

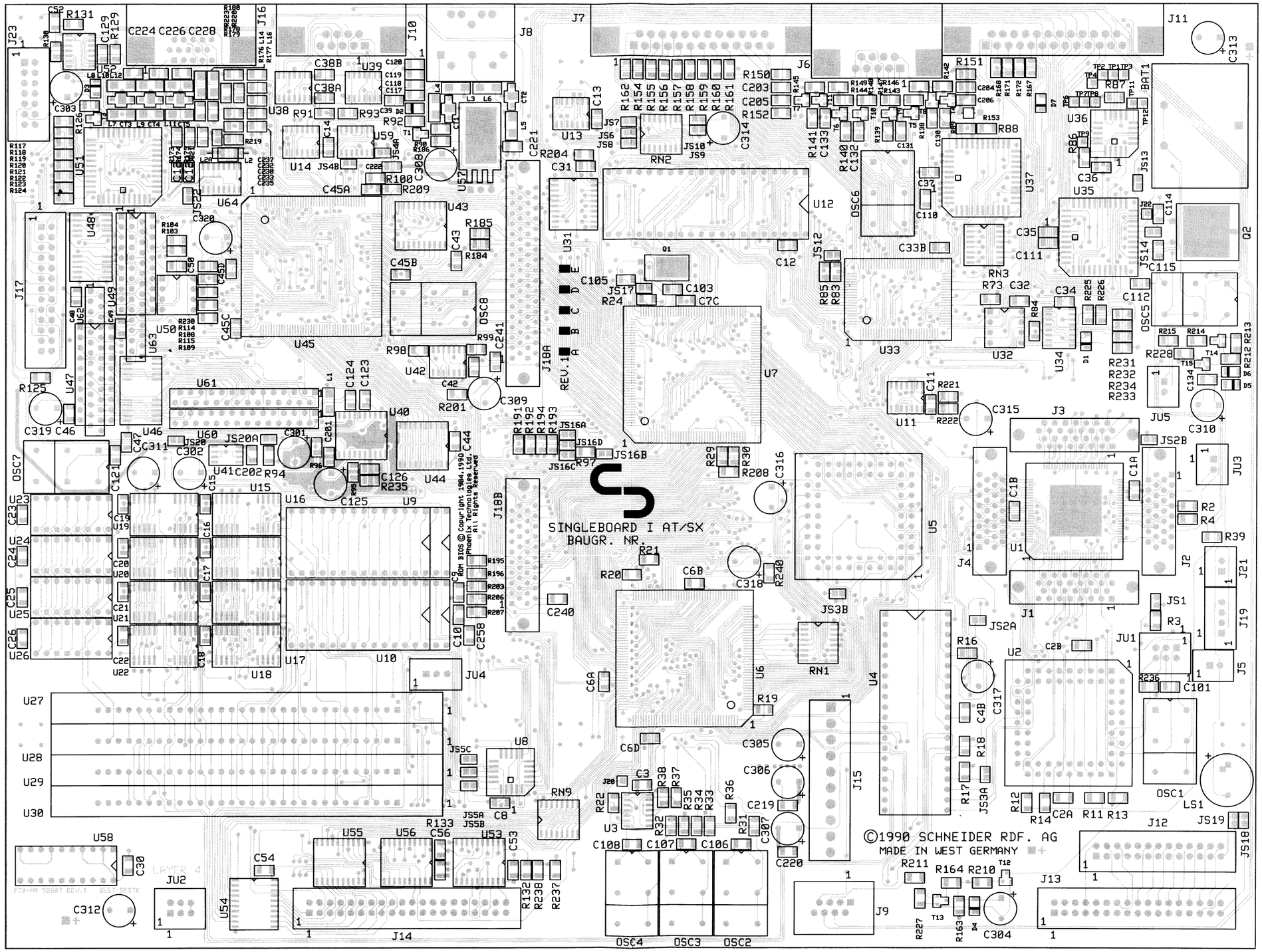

SLOT PCB CONNECTOR
CHAMP CONNECTOR 68 PIN
180 DEGREES FEMALE
J18A
J18B
NOTE 2
C239
220nF
NOTE 1
RESETDRV [4, 5, 10-12, 18]
R181 10K
R182 10K
R183 10K
ZEROWS [4, 8]
R239 330R
SMEMW [5, 14]
SMEMR [5, 14]
R184 1K
R185 1K
IOW [3, 4, 5, 7, 10, 11, 14, 17]
IOR [3, 4, 5, 7, 10, 11, 14, 17]
R186 10K
R187 10K
R188 10K
R240 330R
R189 10K
R190 10K
SYSCLK [5]
REFRESH [4, 5, 10, 14]
DRQ<0: 3, 5: 7> [5, 11]
DACK<0: 3, 5: 7> [5, 10]
IRQ<3: 7, 9: 15> [5, 10, 11, 13, 22]
TC [5, 11]
BALE [5, 17]
OSC [7]
R201 330R
R202 10K
MEMCS16 [5, 14]
IOCS16 [5, 14, 22]
R191 330R
R192 10K
R193 10K
R194 10K
R195 10K
R196 10K
R197 10K
R198 10K
R199 10K
R200 10K
MASTER [5]
R203 330R
HWIDA [10]
HWIDB [10]
SBHE [5, 14]
CHAMP FEMALE 180 DEG
40 PIN
R204 1K
IOCHCK [5, 10]
RN9/1
SOM16
4K7
C240 220nF
C241 220nF
C309 47uF
IOCHRDY [14, 22, 25]
SAEN [5, 10, 14]
RN9/2
R206 4K7
NOTES: 1) R181-183, R197-200 NORMALLY NOT ASSEMBLED
2) C239 NORMALLY NOT ASSEMBLED
SA<0: 19> [3, 5-7, 10-12, 14, 16, 17]
R207 1K
R208 1K
LA<17: 23> [5, 14]
MEMR [5, 6]
MEMW [5]
SD<0: 15> [4, 10, 11, 13, 17]
ESX_424
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603 53 110 53 198
REV 4
DATE: 11-05-90
SHEET: 24 of 25


+5V
C1A 100nF
C1B 100nF
C2A 100nF
C2B 100nF
C3 100nF
C4A 100nF
C4B 100nF
C5A 100nF
C5B 100nF
C6A 100nF
C6B 100nF
C6C 100nF
C6D 100nF
C7A 100nF
C7B 100nF
C7C 100nF
C7D 100nF
C8 100nF
C9 100nF
C10 100nF
C11 100nF
C12 100nF
C13 100nF
C14 220nF
C15 100nF
C16 100nF
C17 100nF
C18 100nF
C19 100nF
C20 100nF
C21 100nF
C22 100nF
C23 100nF
C24 100nF
C25 100nF
C26 100nF
C27 220nF
C28 220nF
C29 220nF
C30 220nF
NOTE 1
C31 100nF
C32 100nF
C33A 220nF
C33B 100nF
C34 100nF
C35 220nF
C36 100nF
C37 220nF
C39 220nF
C42 100nF
C43 100nF
C44 100nF
C45A 220nF
C45B 220nF
C45C 220nF
C45D 220nF
C46 100nF
C47 100nF
C48 100nF
C49 100nF
BLOCK CAPS
13 x 220nF
39 x 100nF
10 x 47uF/16V
C50 100nF
C53 100nF
C54 100nF
C55 100nF
C56 100nF
C311 47uF
C312 47uF
C313 47uF
C314 47uF
C315 47uF
C316 47uF
C317 47uF
C318 47uF
C319 47uF
C320 47uF
SPARE R-NETS
DRQ<0: 3, 5: 7> [5, 11, 24]
C242 47pF
C243 47pF
C244 47pF
C245 47pF
C246 47pF
C247 47pF
C248 47pF
SPARE GATES
F02
U59/4
N/C
MC1488
U38/1
N/C
NOTE 3
R241 1K
F74 DIL
IOCHRDY [14, 22, 24]
BUSCLK [4, 5]
IOCHR331 [5]
VCC
GND
U58
NOTE 4
R205 1K
NOTE 2
RN2/3 4K7
SO16
IRQ<3: 7, 9: 12, 14, 15> [5, 10, 11, 13, 22, 24]
C249 100pF
C250 100pF
C251 100pF
C252 100pF
C253 100pF
C254 100pF
C255 100pF
C256 100pF
C257 100pF
C258 100pF
C259 100pF
NOTES: 1) Cxx..Cxx NORMALLY NOT ASSEMBLED
2) IC 74F74 DIL IS ASSEMBLED AT SPARE GATE POSITION U58 AS SHOWN
3) R241 IS ADDED AS A REWORK ON SOLDER SIDE (NOT INCLUDED IN LAYOUT)
4) R205 NOT ASSEMBLED
ESX_425
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD I SX
USED ON: DESKTOP SX EURO SX
SIZE A3
52 603
53 110
53 198
REV 4
DATE: 11-05-90
SHEET: 25 of 25

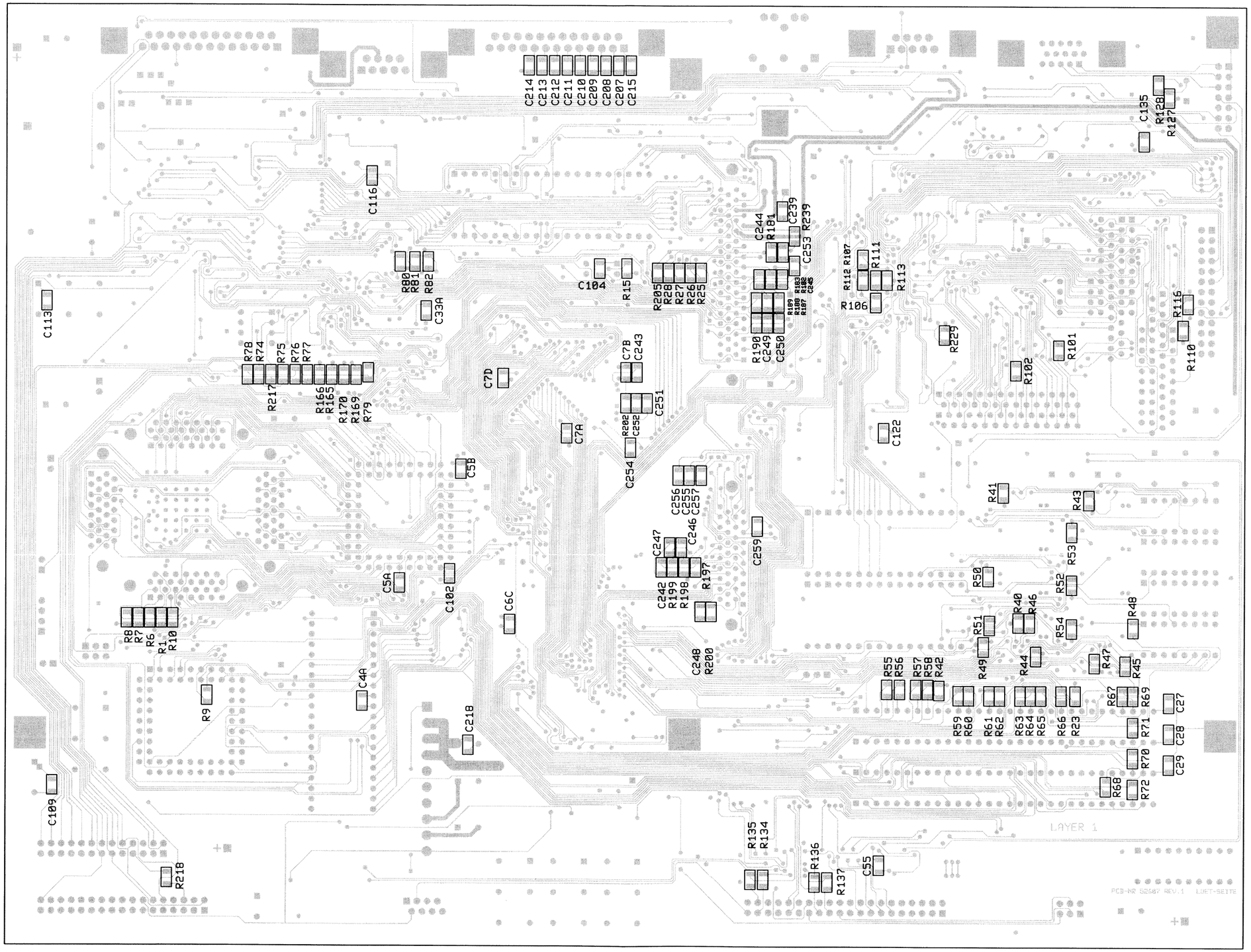
Ersatzteilliste für CPU Platine
Parts list for CPU P.C.B.

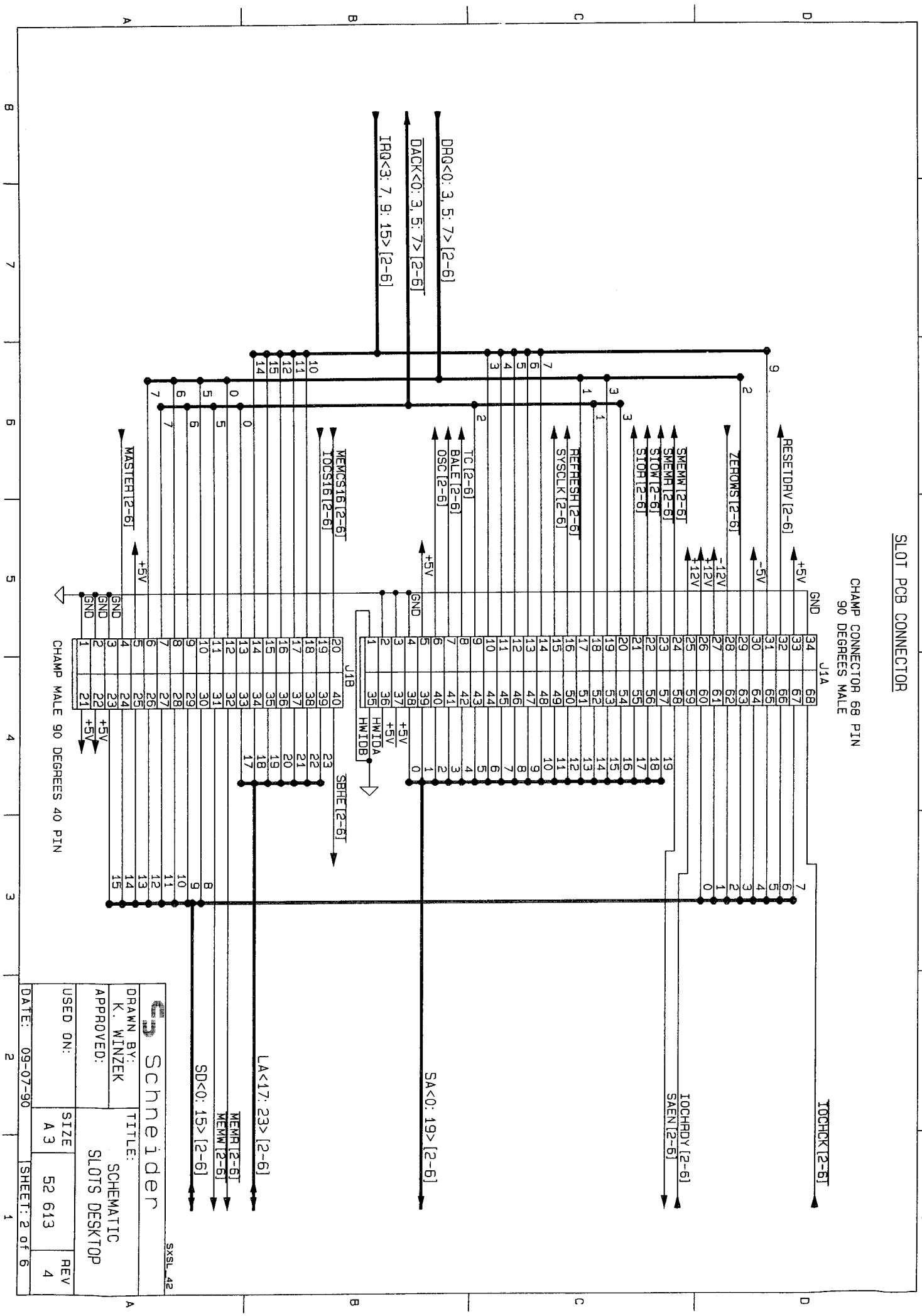
Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 148 00	IC 80386 SX-20 CPU 20 MHz	IC 80386 SX-20 CPU 20 MHz	U 1	G 7
52 754 00	IC 74 F 08 SO14	IC 74 F 08 SO 14	U 3	A 7
53 178 00	IC VL 82C320	IC VL 82C320	U 6	E 6
53 179 00	IC VL 82C331	IC VL 82C331	U 7	E 8
52 729 00	IC HAL 16 L8B PLCC Prog.	IC HAL 16 L8B PLCC prog.	U 8	B 6
52 738 00	IC 512-15 BIOS „LOW"	IC 512-15 BIOS "LOW"	U 9	D 9
52 739 00	IC 512-15 BIOS „HIGH"	IC 512-15 BIOS "HIGH"	U 10	D 9
52 751 00	IC 74 ACT 74 SO14	IC 74 ACT 74 SO 14	U 11	A 7
50 243 00	IC 8042 12 MHz	IC 8042 12 MHz	U 12	C 3
51 586 00	IC 7406 SO14	IC 7406 SO14	U 13	A 9
51 589 00	IC 74 F 126 SO14	IC 74 F 126 SO14	U 14	A 6
53 246 00	IC DRAM 256K X 4 60NS	IC DRAM 256K X 4 60NS	U 15-22	D 0
52 761 00	IC SIMM Sockel 2 X 30 PIN	IC SIMM 2 X 30 PIN	U 27-30	B 5
51 319 00	IC 74 LS 245 SO20	IC 74 LS 245 SO20	U 31, 43, 44, 54, 55	A 7
52 758 00	IC NMC 9346N DIL8	IC NMC 9346N DIL8	U 32, 50	B 5
50 773 00	IC BIGJIM TC110G008	IC BIGJIM TC110G008	U 33	D 1
51 318 00	IC 74 HC 165 SO22	IC 74 HC 165 SO22	U 34	A 9
50 105 00	IC WD 37C65A/B-JMOO	IC WD 37C65A/B-JMOO	U 35	D 5
50 827 00	IC 16 C 450 PLCC44	IC 16 C 450 PLCC44	U 37	C 6
52 756 00	IC MC 1488 SO14	IC MC 1488 SO 14	U 38	A 6
52 757 00	IC MC 1489 SO	IC MC 1489 SO	U 39	A 6
52 752 00	IC ATI 18810 SO20	IC ATI 18810 SO20	U 40	C 3
52 750 00	IC 78 L 05 S08	IC 78 L 05 S08	U 41	A 4
52 753 00	IC ATI 28800 QPFP 160	IC ATI 28800 QPFP 160	U 45	F 1
52 749 00	IC DRAM 256K X 4 80NS	IC DRAM 256K X 4 80NS	U 46, 47, 48, 49	D 3
52 944 00	IC TR 9C 1710-66DC	IC TR 9C 1710-66DC	U 51	C 7
51 543 00	IC LM 339 Quad Comparator	IC LM 339 quad comparator	U 52	B 2
51 321 00	IC 74 LS 244 SO20	IC 74 LS 244 SO20	U 53, 56	B 0
50 238 00	IC 7905	IC 7905	U 57	A 6
51 144 00	IC 74 F 74 DIL	IC 74 F 74 DIL	U 58	A 6
52 982 00	IC 74 F 02 SO14	IC 74 F 02 SO14	U 59	A 6
52 763 00	Trans. BC 817-16 NPN	Trans. BC 817-16 NPN	T 1, 3-7, 12-14	A 1
52 764 00	Trans. BC 807-16 PNP	Trans. BC 807-16 PNP	T 8-11, 15	A 1
52 765 00	Diode BAS 32 SOD 80	Diode BAS 32 SOD 80	D 1-7	A 5
52 777 00	Batterie NICD 3,6 V	Battery NICD 3.6 V	BAT 1	C 0
52 762 00	Osz. 40,0 MHz	Osc. 40.0 MHz	OSC 2	B 8
52 348 00	Osz. 14,3181 MHz	Osc. 14.3181 MHz	OSC 3	B 8
50 833 00	Osz. 32,0 MHz	Osc. 32.0 MHz	OSC 4	B 8
51 330 00	Osz. 1,8432 MHz	Osc. 1.8432 MHz	OSC 6	C 2
50 989 00	Osz. 45,0 MHz	Osc. 45.0 MHz	OSC 8	C 2
51 040 00	Quarz 32,768 kHz	Crystal 32,768 kHz	Q 1	A 7
51 093 00	Quarz 9,6 MHz HC-18 U	Crystal 9.6 MHz HC-18 U	Q 2	A 8
50 321 00	Widerstand PTC 0R75	Resistor PTC 0R75	R 153	B 0
52 769 00	R-Netzwerk 15X10K	R-net work 15X10K	RN 1	A 7
52 768 00	R-Netzwerk 15X4K7	R-net work 15X4K7	RN 2, 9	A 7
52 767 00	R-Netzwerk 15X1K	R-net word 15X1K	RN 3	A 7
52 775 00	Spule 4,7 µH	Coil 4.7 µH	L 2	A 7
50 332 00	Summer	Buzzer	LS 1	A 8
51 139 00	Stiftleiste RM 2,54 6pol.	Connector RM 2.54 6-pin	JU 1, 2	A 7
50 253 00	Stiftleiste RM 2,54 3pol.	Connector RM 2,54 3-pin	JU 4	A 7
51 569 00	Stiftleiste RM 2,54 26pol.	Connector RM 2.54 26-pin	J 12, 17	A 7
51 084 00	Stiftleiste 2 × 17	Connector 2 × 17	J 13	A 7
51 085 00	Stiftleiste 2 × 20	Connector 2 × 20	J 14	A 7
52 779 00	Stiftleiste RM 3,96	Connector RM 3.96	J 15	A 7
53 247 00	Stiftleiste RM 2,54 4pol.	Connector RM 2.54 4-pin	J 19	A 7
51 626 00	Stiftleiste RM 2,54 2pol.	Connector RM 2.54 2-pin	J 21, JU 5	A 7
50 949 00	Buchse SUB-D 9 PIN	Socket SUB-D 9-pin	J 6	C 3
50 133 00	Buchse SUB-D 25 PIN	Socket SUB-D 25-pin	J 7, 11	B 2

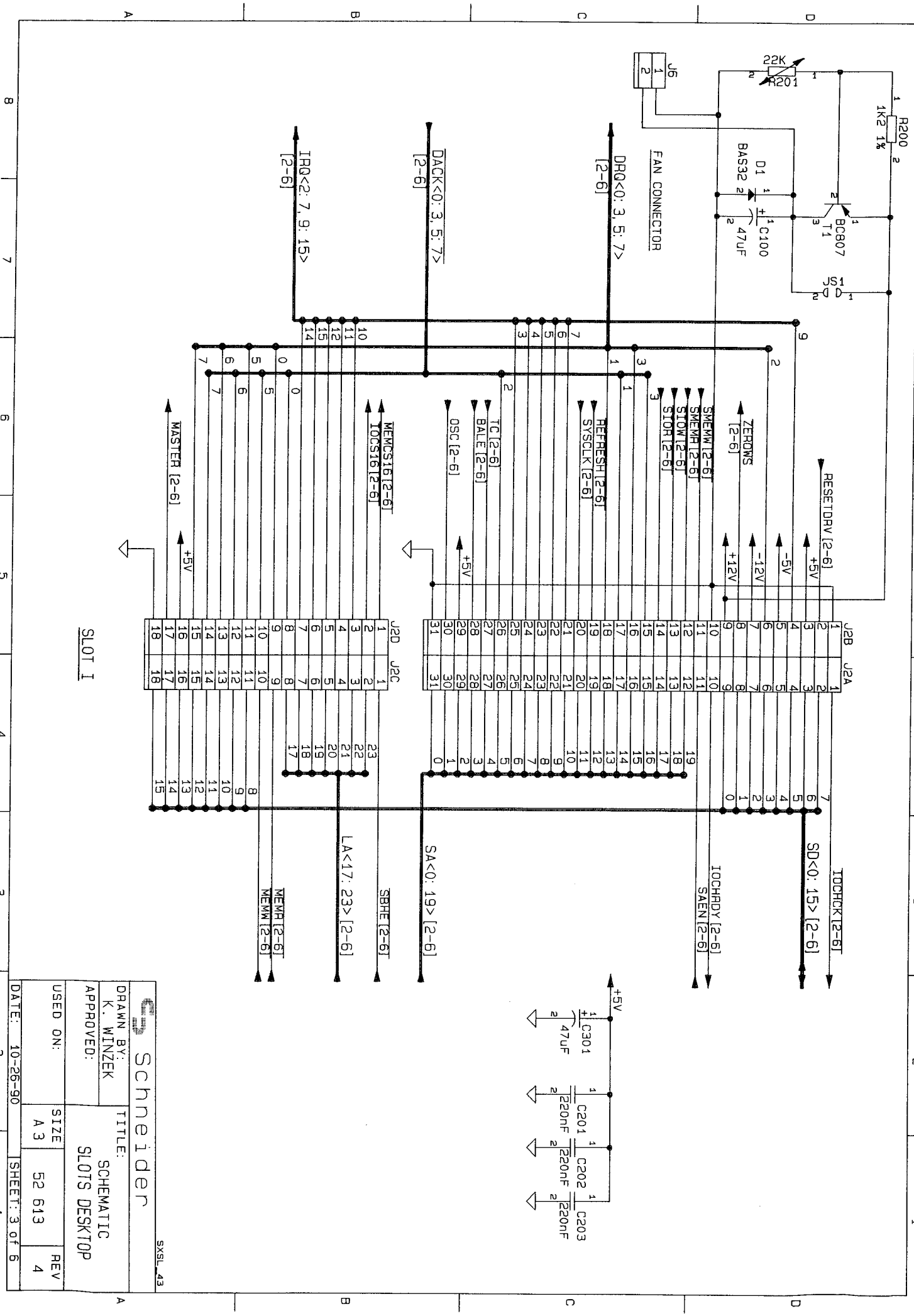
CPU P.C.B.
Component side

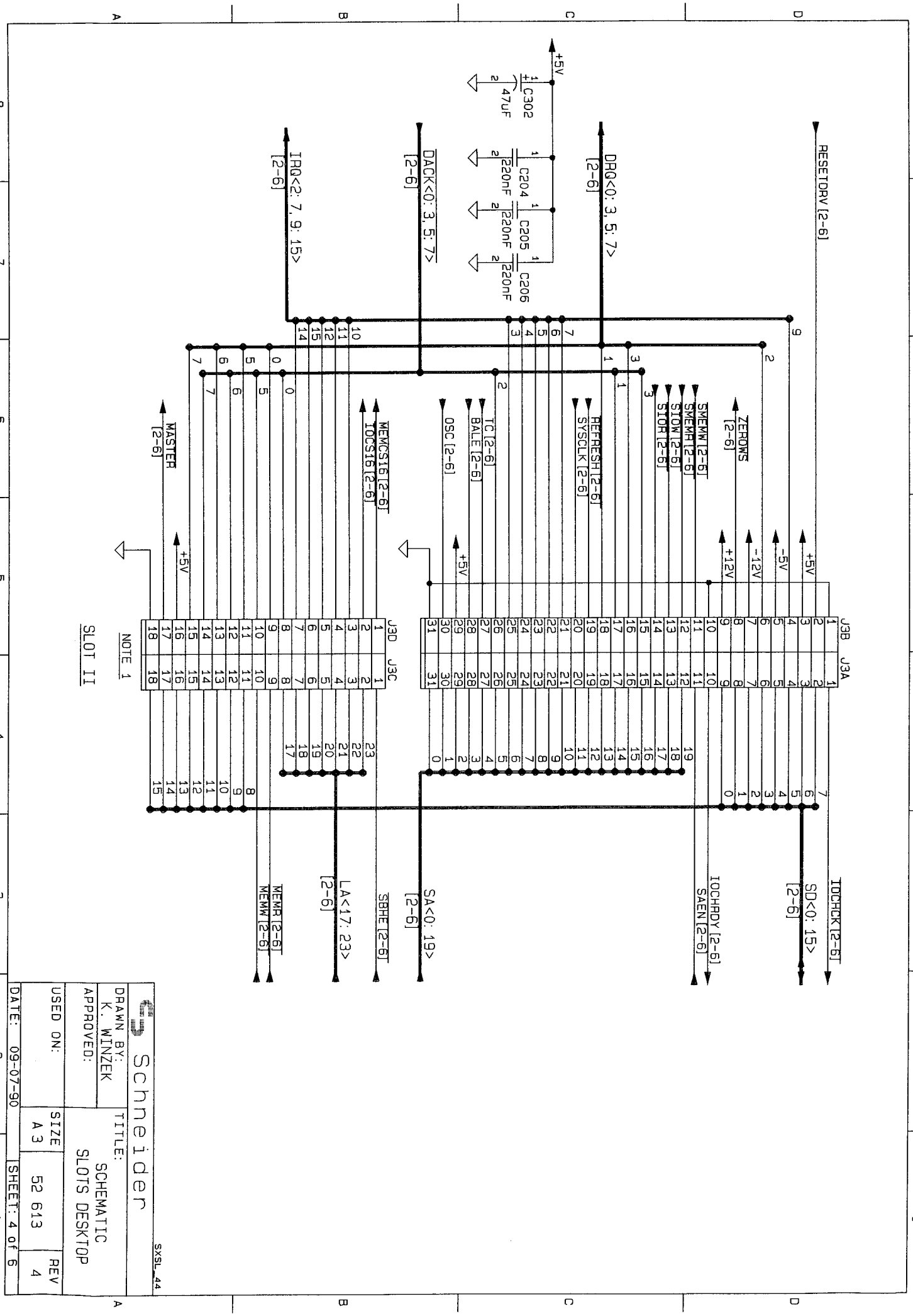


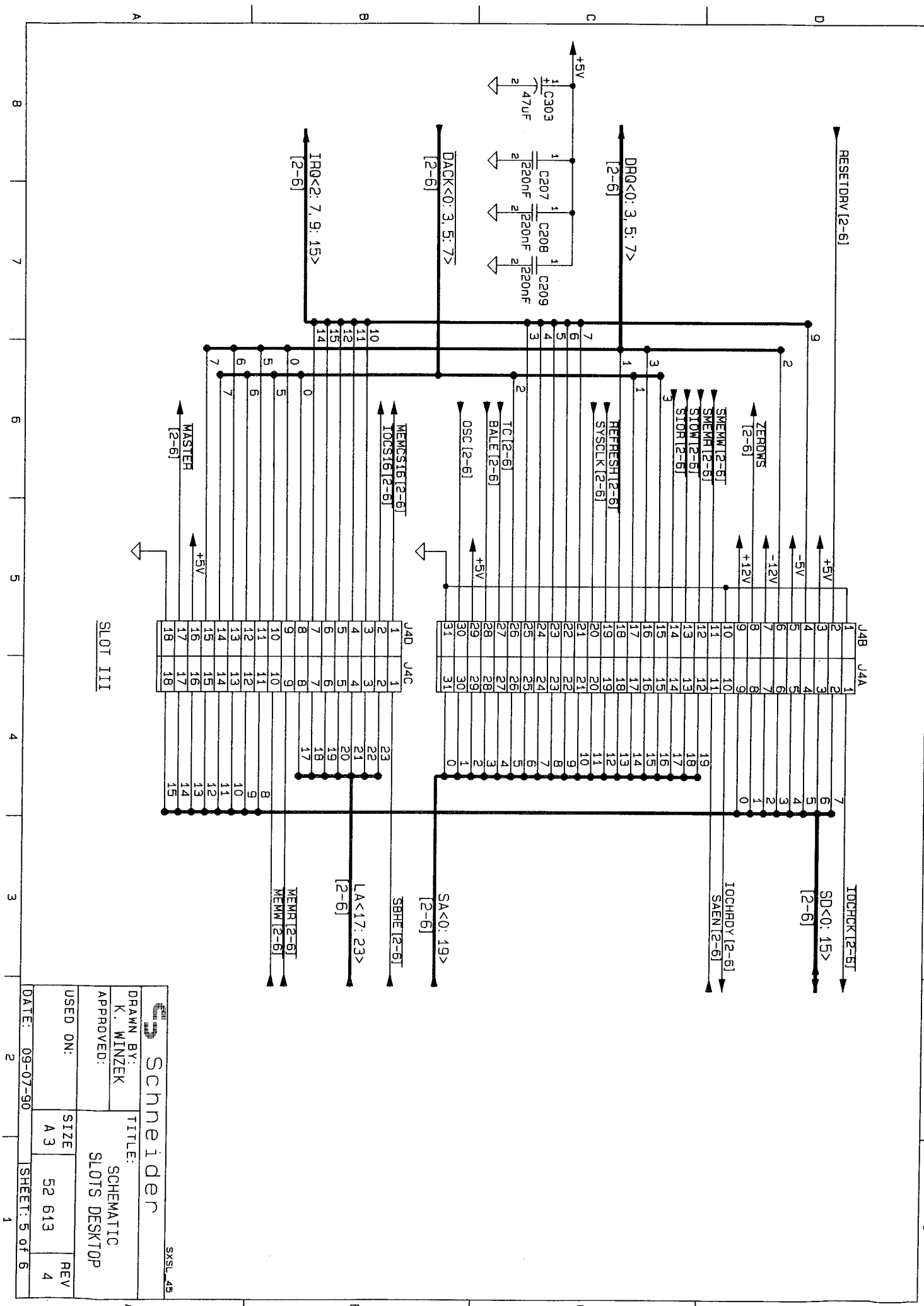
CPU P.C.B.
Soldering side

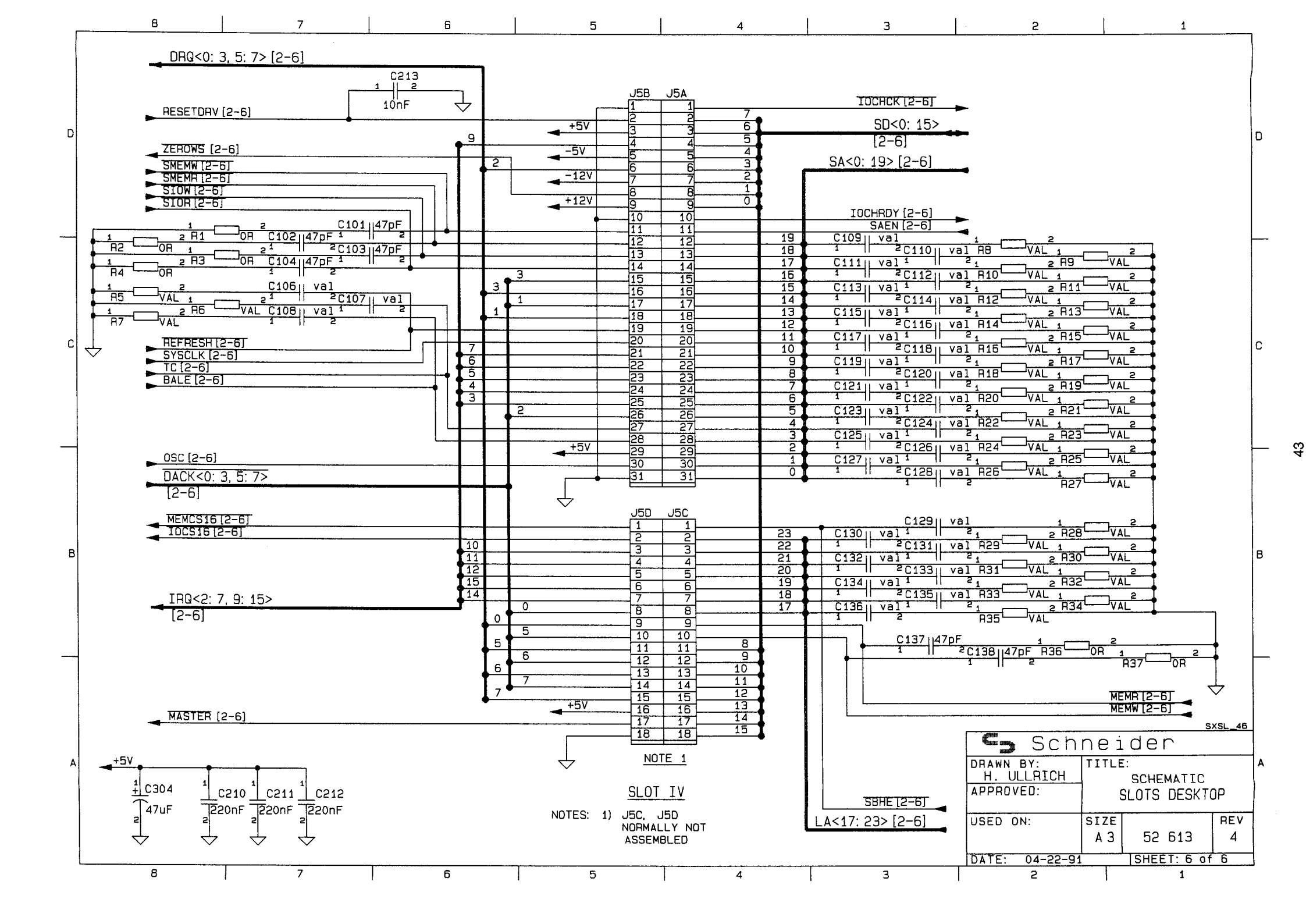



SLOT PCB CONNECTOR
CHAMP CONNECTOR 68 PIN
90 DEGREES MALE
J1A
J1B
CHAMP MALE 90 DEGREES 40 PIN
DRQ<0, 3, 5, 7> [2-6]
DACK<0, 3, 5, 7> [2-6]
IRQ<3, 7, 9, 15> [2-6]
RESETDRV [2-6]
ZEROWS [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
REFRESH [2-6]
SYSCLK [2-6]
TC [2-6]
BALE [2-6]
OSC [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
MASTER [2-6]
IOCHCK [2-6]
IOCHRDY [2-6]
AEN [2-6]
SA<0: 19> [2-6]
LA<17: 23> [2-6]
SD<0: 15> [2-6]
MEMR [2-6]
MEMW [2-6]
SBHE [2-6]
HWIDA
HWIDB
GND
+5V
-5V
+12V
-12V
Schneider
DRAWN BY: K. WINZEK
APPROVED:
USED ON:
TITLE: SCHEMATIC
SLOTS DESKTOP
SIZE A 3
52 613
REV 4
DATE: 09-07-90
SHEET: 2 of 6
SXSL_42

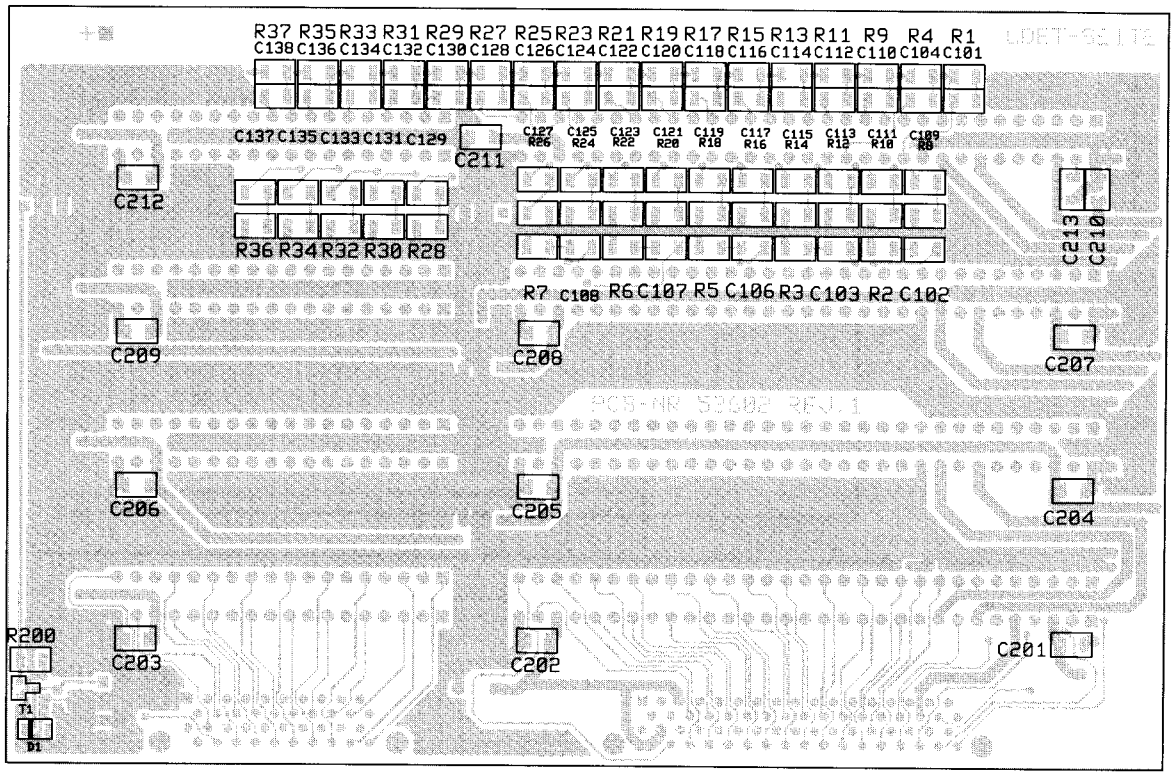

SLOT I
J6
FAN CONNECTOR
22K
R201
R200
1K2 1%
D1
BAS32
C100
47uF
BC807
T1
S1
J2B
J2A
J2D
J2C
+5V
-5V
+12V
-12V
RESETDRV [2-6]
ZEROWS [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
REFRESH [2-6]
SYSCLK [2-6]
TC [2-6]
BALE [2-6]
OSC [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
MASTER [2-6]
IRQ<2: 7, 9: 15> [2-6]
DACK<0: 3, 5: 7> [2-6]
DRQ<0: 3, 5: 7> [2-6]
IOCHCK [2-6]
SD<0: 15> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19> [2-6]
LA<17: 23> [2-6]
SBHE [2-6]
MEMR [2-6]
MEMW [2-6]
C301
47uF
C201
220nF
C202
220nF
C203
220nF
Schneider
DRAWN BY: K. WINZEK
APPROVED:
USED ON:
TITLE: SCHEMATIC SLOTS DESKTOP
DATE: 10-26-90
SIZE A3
52 613
REV 4
SHEET: 3 of 6
SXSL_43


RESETDRV [2-6]
DRQ<0: 3, 5: 7>
[2-6]
DACK<0: 3, 5: 7>
[2-6]
IRQ<2: 7, 9: 15>
[2-6]
+5V
C302
47uF
C204
220nF
C205
220nF
C206
220nF
J3B
J3A
J3D
J3C
NOTE 1
SLOT II
MASTER [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
OSC [2-6]
TC [2-6]
BALE [2-6]
REFRESH [2-6]
SYSCLK [2-6]
SMEMW [2-6]
SMEMR [2-6]
IOW [2-6]
IOR [2-6]
ZEROWS [2-6]
+12V
-12V
-5V
IOCHCK [2-6]
SD<0: 15>
[2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19>
[2-6]
LA<17: 23>
[2-6]
SBHE [2-6]
MEMR [2-6]
MEMW [2-6]
Schneider
DRAWN BY:
K. WINZEK
APPROVED:
USED ON:
DATE: 09-07-90
TITLE:
SCHEMATIC
SLOTS DESKTOP
SIZE
A 3
52 613
REV
4
SHEET: 4 of 6
SXSL_44

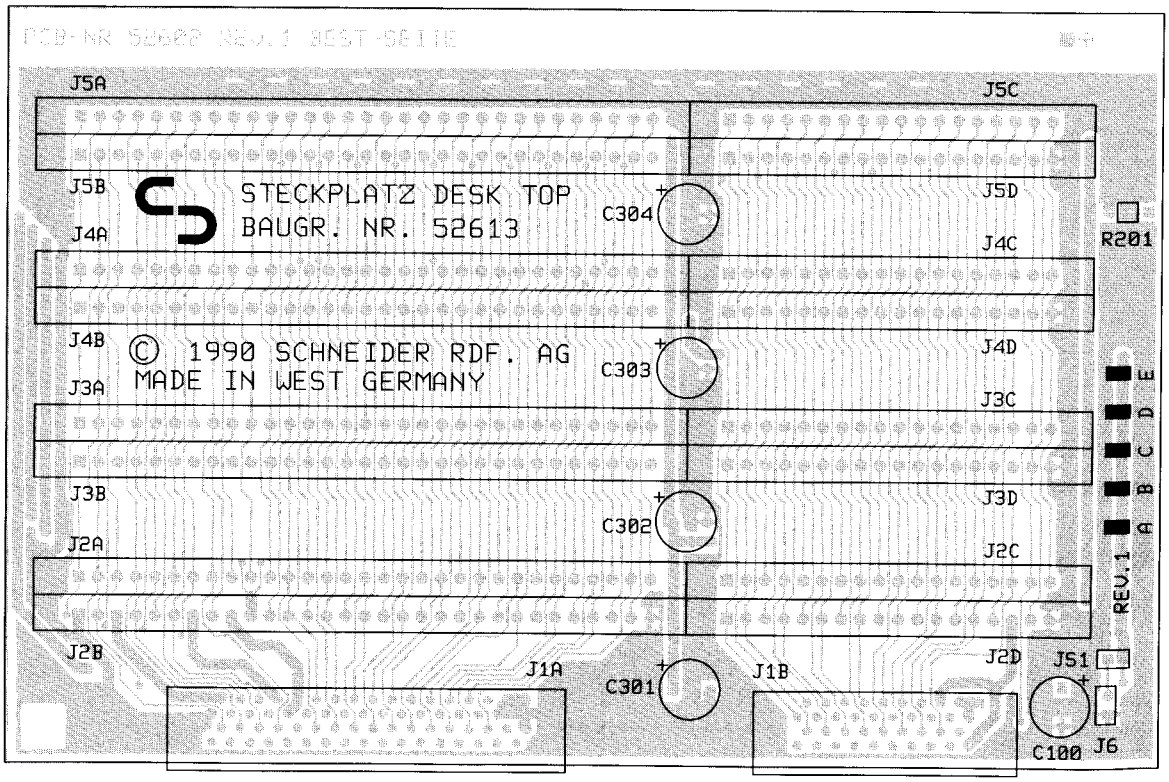

RESETDRV [2-6]
DRQ<0: 3, 5: 7> [2-6]
DACK<0: 3, 5: 7> [2-6]
IRQ<2: 7, 9: 15> [2-6]
+5V
C303 47uF
C207 220nF
C208 220nF
C209 220nF
J4B
J4A
J4D
J4C
SLOT III
MASTER [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
OSC [2-6]
TC [2-6]
BALE [2-6]
REFRESH [2-6]
SYSCLK [2-6]
SMEMW [2-6]
SMEMR [2-6]
IOW [2-6]
IOR [2-6]
ZEROWS [2-6]
+12V
-12V
-5V
IOCHCK [2-6]
SD<0: 15> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19> [2-6]
LA<17: 23> [2-6]
SBHE [2-6]
MEMR [2-6]
MEMW [2-6]
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SLOTS DESKTOP
USED ON:
SIZE A 3
52 613
REV 4
DATE: 09-07-90
SHEET: 5 of 6
SXSL_45

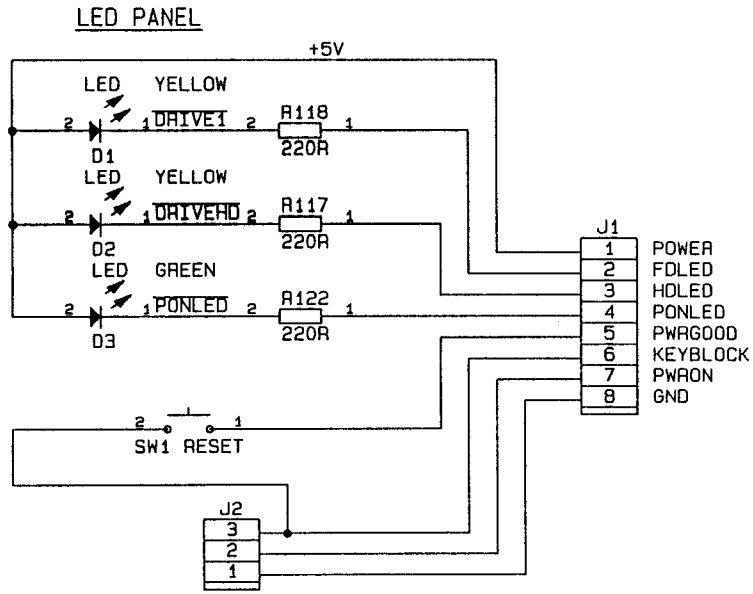

DRQ<0: 3, 5: 7> [2-6]
C213
10nF
RESETDRV [2-6]
ZEROWS [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
C101 47pF
R1 0R
C102 47pF
R2 0R
C103 47pF
R3 0R
C104 47pF
R4 0R
C106 val
R5 VAL
C107 val
R6 VAL
C108 val
R7 VAL
REFRESH [2-6]
SYSCLK [2-6]
TC [2-6]
BALE [2-6]
OSC [2-6]
DACK<0: 3, 5: 7>
[2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
IRQ<2: 7, 9: 15>
[2-6]
MASTER [2-6]
+5V
C304 47uF
C210 220nF
C211 220nF
C212 220nF
J5B J5A
J5D J5C
+5V
-5V
-12V
+12V
NOTE 1
SLOT IV
NOTES: 1) J5C, J5D NORMALLY NOT ASSEMBLED
IOCHCK [2-6]
SD<0: 15> [2-6]
SA<0: 19> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
C109 val
R8 VAL
C110 val
R9 VAL
C111 val
R10 VAL
C112 val
R11 VAL
C113 val
R12 VAL
C114 val
R13 VAL
C115 val
R14 VAL
C116 val
R15 VAL
C117 val
R16 VAL
C118 val
R17 VAL
C119 val
R18 VAL
C120 val
R19 VAL
C121 val
R20 VAL
C122 val
R21 VAL
C123 val
R22 VAL
C124 val
R23 VAL
C125 val
R24 VAL
C126 val
R25 VAL
C127 val
R26 VAL
C128 val
R27 VAL
C129 val
R28 VAL
C130 val
R29 VAL
C131 val
R30 VAL
C132 val
R31 VAL
C133 val
R32 VAL
C134 val
R33 VAL
C135 val
R34 VAL
C136 val
R35 VAL
C137 47pF
C138 47pF
R36 0R
R37 0R
MEMR [2-6]
MEMW [2-6]
SBHE [2-6]
LA<17: 23> [2-6]
SXSL_46
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SLOTS DESKTOP
USED ON:
SIZE A 3
52 613
REV 4
DATE: 04-22-91
SHEET: 6 of 6

Slot P.C.B.
Soldering side



Slot P.C.B.
Component side

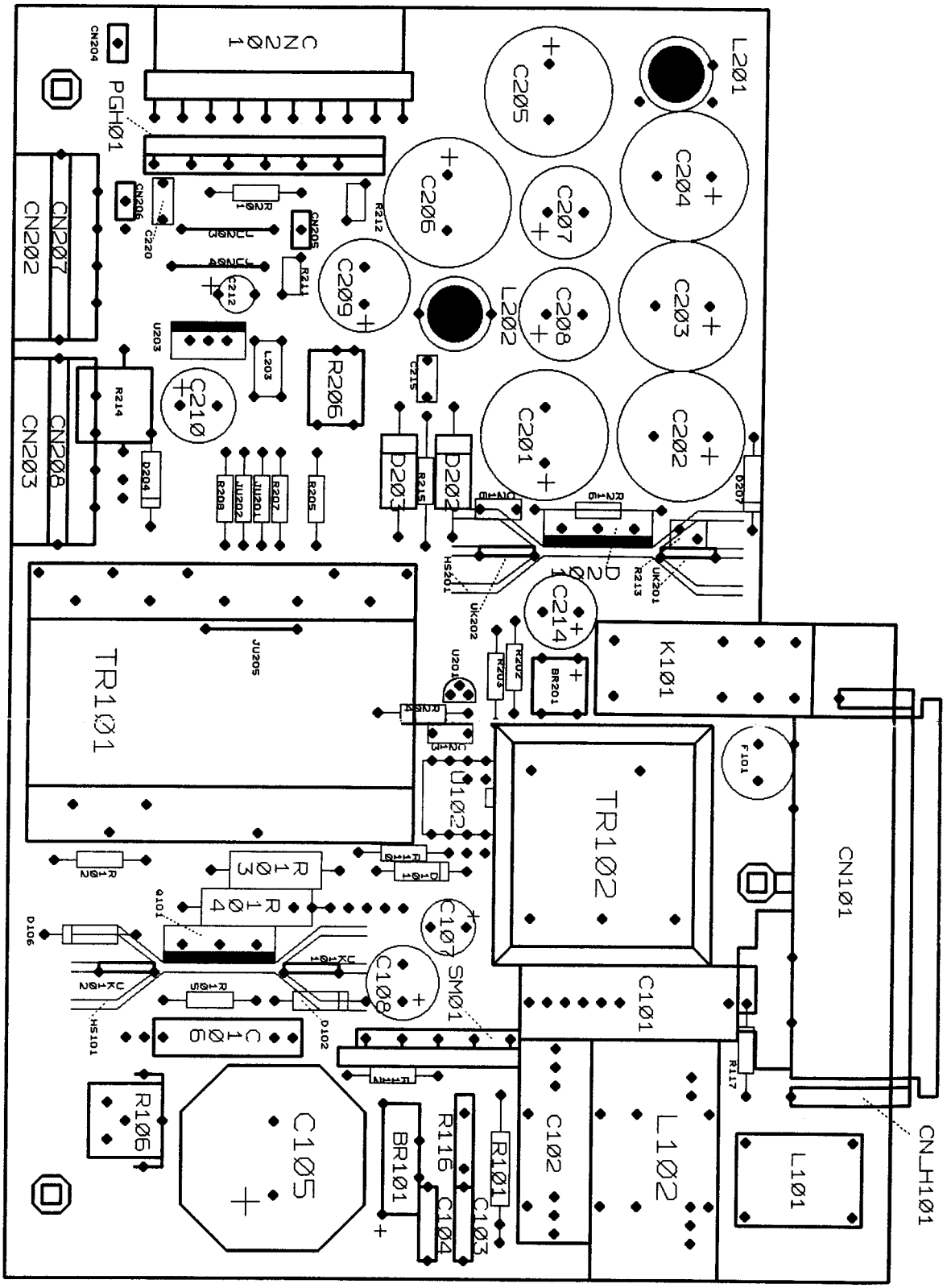




LEDP_22

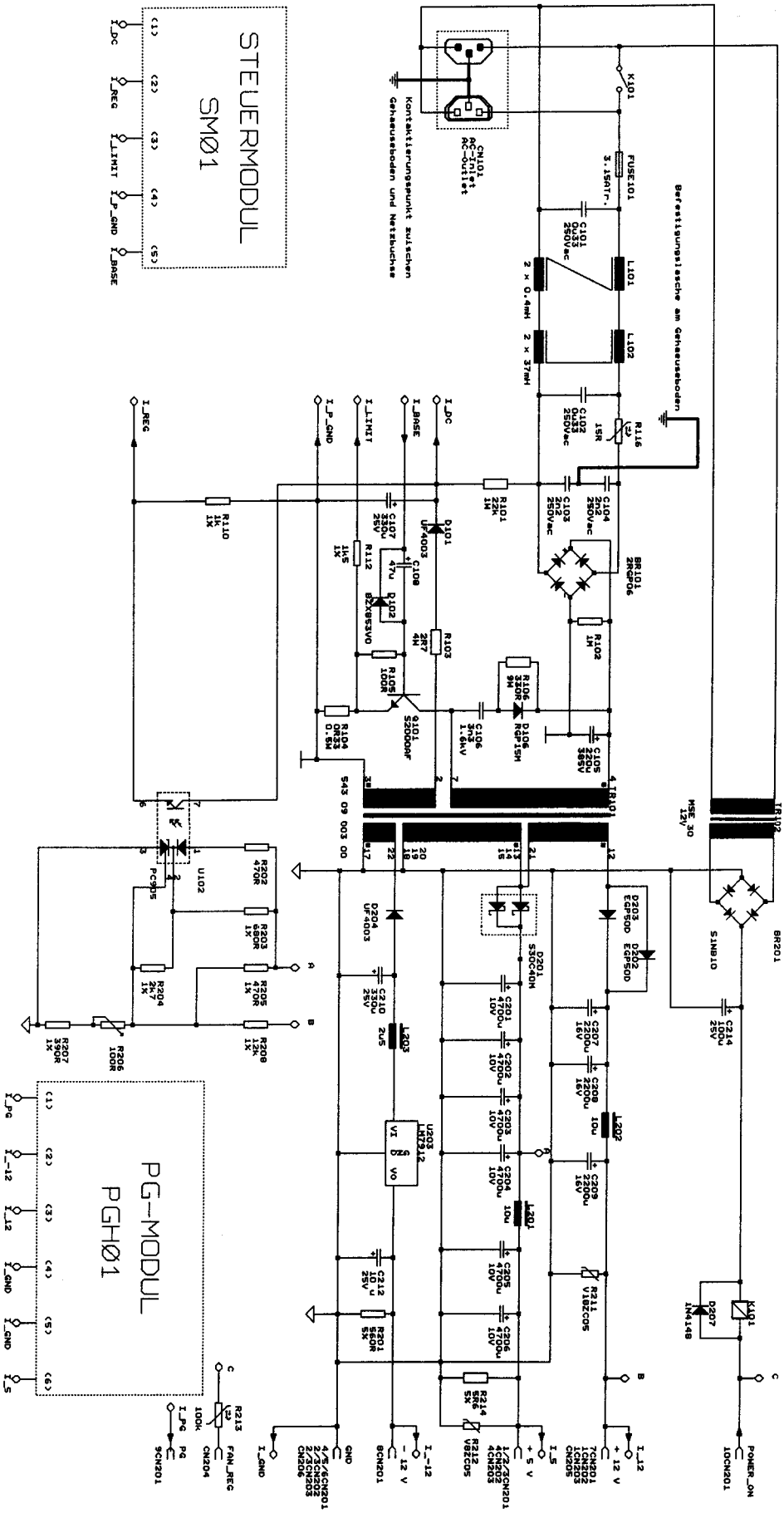
Schneider			
DRAWN BY: K. WINZEK	TITLE: SCHEMATIC LED PANEL DESKTOP		
APPROVED:			
USED ON: DESKTOP SX/AT	SIZE A 3	52615 53194	REV 2
DATE: 09-06-90	SHEET: 2 of 2		

Power supply
Component side



Schematic diagram

Power supply



Error Code Table for D 386/20

The "DIAGNP OUTPUT" codes are placed at the diagnostic status port to indicate tests in progress and failed tests to someone with hardware which can detect the output. If the FAILBEEP option is selected, the "BEEP CODES" are announced on the speaker if and only if a fatal failure is detected. For instance, "2-1-4" (a burst of two beeps, a single beep, a burst of four beeps) indicates a failure of bit 3 in the first 64K of RAM. Both set of codes are only used prior to screen initialization and screen retrace verification.

Once the screen is believed operable, any diagnostic reporting is via screen messages, except if MANLOOP EQU TRUE and the jumpers say to loop on POST. In this case, it is assumed that no video adapter is attached and some additional errors will be reported via DIAGNP and the speaker.

DIAGNP OUTPUT	BEEP CODES	DESCRIPTION OF TEST OR FAILURE
01h		80286 register test in-progress
02h	1-1-3	CMOS write/read test in-progress or failure
03h	1-1-4	BIOS ROM checksum in-progress or failure
04h	1-2-1	Programmable Interval Timer test in-progress or failure
05h	1-2-2	DMA initialization in-progress or failure
06h	1-2-3	DMA page register write/read test in-progress or fail
07h	1-2-4	JIM port address offset determination in-progress or not found
08h	1-3-1	RAM refresh verification in-progress or failure
09h		1st 64K RAM test in-progress
0Ah	1-3-3	1st 64K RAM chip or data line failure - multi-bit
0Bh	1-3-4	1st 64K RAM odd/even logic failure
0Ch	1-4-1	1st 64K RAM address line failure
0Dh	1-4-2	1st 64K RAM parity test in_progress or failure
0Eh	1-4-3	invalid PBC ID ;V2.00
10h	2-1-1	1st 64K RAM chip or data line failure - bit 0
11h	2-1-2	1st 64K RAM chip or data line failure - bit 1
12h	2-1-3	1st 64K RAM chip or data line failure - bit 2
13h	2-1-4	1st 64K RAM chip or data line failure - bit 3
14h	2-2-1	1st 64K RAM chip or data line failure - bit 4
15h	2-2-2	1st 64K RAM chip or data line failure - bit 5
16h	2-2-3	1st 64K RAM chip or data line failure - bit 6
17h	2-2-4	1st 64K RAM chip or data line failure - bit 7
18h	2-3-1	1st 64K RAM chip or data line failure - bit 8
19h	2-3-2	1st 64K RAM chip or data line failure - bit 9
1Ah	2-3-3	1st 64K RAM chip or data line failure - bit A
1Bh	2-3-4	1st 64K RAM chip or data line failure - bit B
1Ch	2-4-1	1st 64K RAM chip or data line failure - bit C
1Dh	2-4-2	1st 64K RAM chip or data line failure - bit D
1Eh	2-4-3	1st 64K RAM chip or data line failure - bit E
1Fh	2-4-4	1st 64K RAM chip or data line failure - bit F
20h	3-1-1	slave DMA register test in-progress or failure
21h	3-1-2	master DMA register test in-progress or failure
22h	3-1-3	master interrupt mask register test in-progress or fail
23h	3-1-4	slave interrupt mask register test in-progress or fail
25h		interrupt vector loading in-progress
27h	3-2-4	keyboard controller test in-progress or failure
28h		CMOS power-fail and checksum checks in-progress
29h		CMOS config info validation in-progress
2Ah	3-3-3	monitor type determination in-progress or failure
2Bh	3-3-4	screen memory test in-progress or failure
2Ch	3-4-1	screen initialization in-progress or failure
2Dh	3-4-2	screen retrace tests in-progress or failure
2Eh		search for video ROM in-progress
30h		screen believed operable:

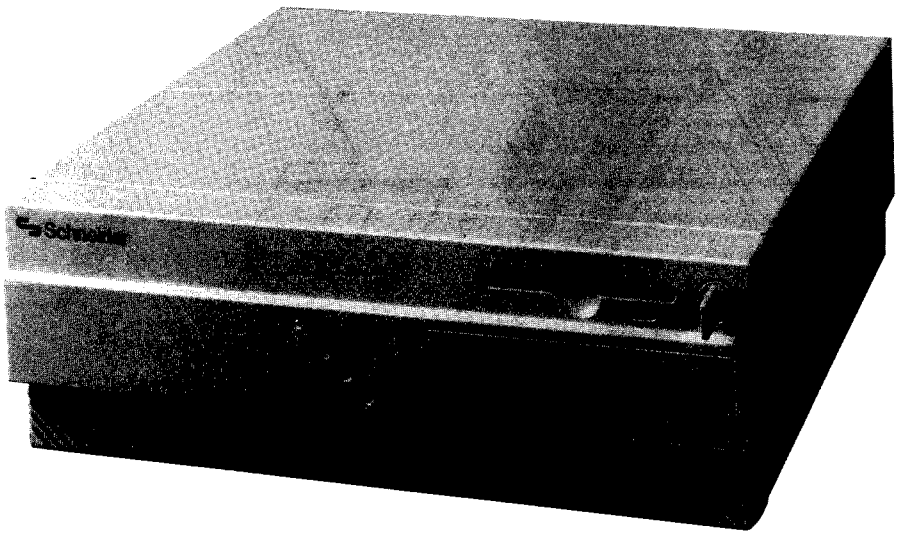
```
30h ;         screen believed running w/ video ROM
31h ;         monochromatic screen believed operable
32h ;         40-column color screen believed operable
33h ;         80-column color screen believed operable

The following codes are reported via DIAGNP and the speaker only if
MANLOOP EQU TRUE and the "manufacturing jumper" indicates loop on POST.
Otherwise, these errors are reported via the screen and POST continues.
Use of the manufacturing jumper requires working correctly configured CMOS.
34h ; 4-2-1  timer tick interrupt test in_progress or failure
35h ; 4-2-2  shutdown test in_progress or failure
36h ; 4-2-3  gate A20 failure
37h ; 4-2-4  unexpected interrupt in protected mode
38h ; 4-3-1  RAM test in_progress or failure above address 0FFFFh
3Ah ; 4-3-3  Interval timer channel 2 test in_progress or failure
3Bh ; 4-3-4  Time-Of-Day clock test in_progress or failure
3Ch ; 4-4-1  Serial port test test in_progress or failure
3Dh ; 4-4-2  Parallel port test test in_progress or failure
3Eh ; 4-4-3  Math Coprocessor test in_progress or failure
```

Notizen
Note

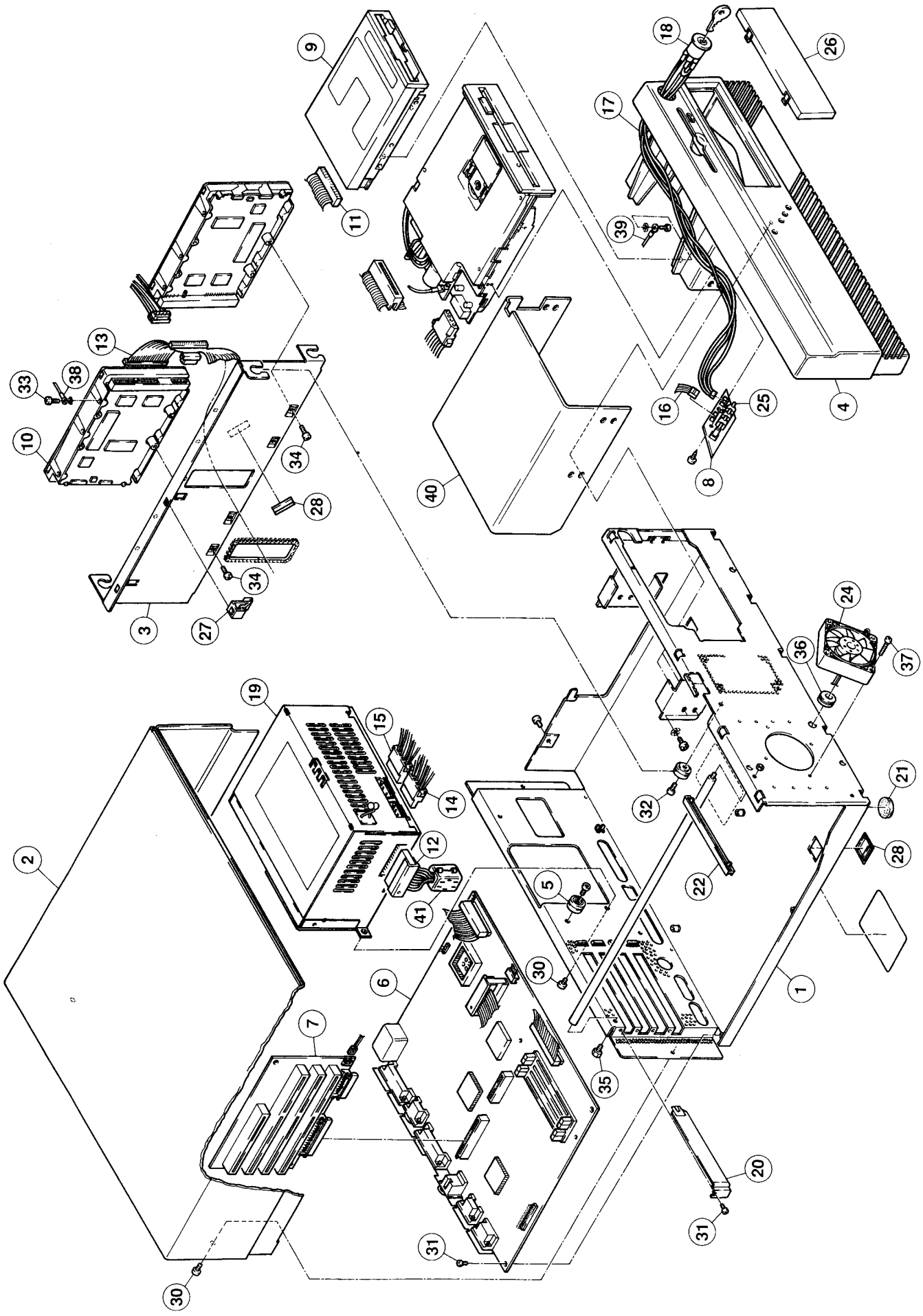
Kundendienst-Handbuch
Service manual

Schneider

SYSTEMEINHEIT
D 486/20



Exploded view



Ersatzteilliste für D 486/20 – SD
Parts list for D 486/20 – SD

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 675 00	Styropor	Polyfoam		C 4
53 704 00	Faltkarton	Gift box		C 1
52 600 00	Gehäuseunterteil	Cabinet, bottom	1	D 6
52 601 00	Gehäuseoberteil	Cabinet, top	2	D 3
52 610 00	Halteblech HD	Retaining plate	3	B 7
54 104 00	Frontblende	Front mask	4	C 5
52 611 00	Gummimetall	Erasermetal	5	A 7
54 091 00	Platine CPU 486-SX/20	P.C.B. CPU	6	K 4
54 320 00	Platine Steckplatz	P.C.B. slot	7	E 2
53 194 00	Platine LED	P.C.B. LED	8	C 4
50 021 00	Floppylaufwerk 1,44 MB	Floppy disk drive 1.44 MB	9	F 9
53 837 00	Kabelbaum Floppy	Cable loop floppy	11	B 9
52 789 00	Verbindungskabel, Netz-CPU	Cable, connection	12	B 7
52 790 00	HD-Kabel	Cable, HDD	13	B 9
52 791 00	Adapterkabel HD 4pol.	Cable, adapter	14	C 2
52 794 00	Kabelbaum LED	Cable loop LED	16	B 1
52 795 00	kabelbaum Schloß	Cable loop lock	17	A 7
53 175 00	Schlüsselschalter kpl.	Key switch	18	C 6
54 151 00	Netzteil	Power supply	19	G 3
50 020 00	Blindblech	Plate, blind	20	A 6
51 456 00	Gehäusefuß	Leg, cabinet	21	A 4
52 612 00	Führungsschiene	Guide rail	22	A 4
52 798 00	Lüfter	Ventilator	24	D 6
52 632 00	Druckknopf Reset	Pushbutton, reset	25	A 6
52 619 00	Blindblende	Plate, blind	26	A 6
50 294 00	Druckknopf Floppy (Sony)	Push button, floppy (Sony)		A 5
65 220 00	Schlüssel	Key		B 5
52 665 00	Netzkabel	Cord AC		C 5
53 891 00	IC BIOS	IC BIOS		E 6
53 221 00	Tastatur (D)	Keyboard (D)		F 6
53 222 00	Tastatur (CH)	Keyboard (CH)		F 6
53 223 00	Tastatur (DK)	Keyboard (DK)		F 6
53 224 00	Tastatur (E)	Keyboard (E)		F 6
53 225 00	Tastatur (F)	Keyboard (F)		F 6
53 226 00	Tastatur (F) DUAL	Keyboard (F) DUAL		F 6
53 227 00	Tastatur (I)	Keyboard (I)		F 6
53 228 00	Tastatur (N)	Keyboard (N)		F 6
53 229 00	Tastatur (P)	Keyboard (P)		F 6
53 230 00	Tastatur (S/SF)	Keyboard (S/SF)		F 6
53 231 00	Tastatur (GR)	Keyboard (GR)		F 6
53 232 00	Tastatur (GB)	Keyboard (GB)		F 6

Ersatzteilliste für D 486/20 – HD 120
Parts list for D 486/20 – HD 120

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
54 173 00	HD-Laufwerk 120 MB	Hard disk drive 120 MB		K 4

Ersatzteilliste für D 486/20 – HD 200
Parts list for D 486/20 – HD 200

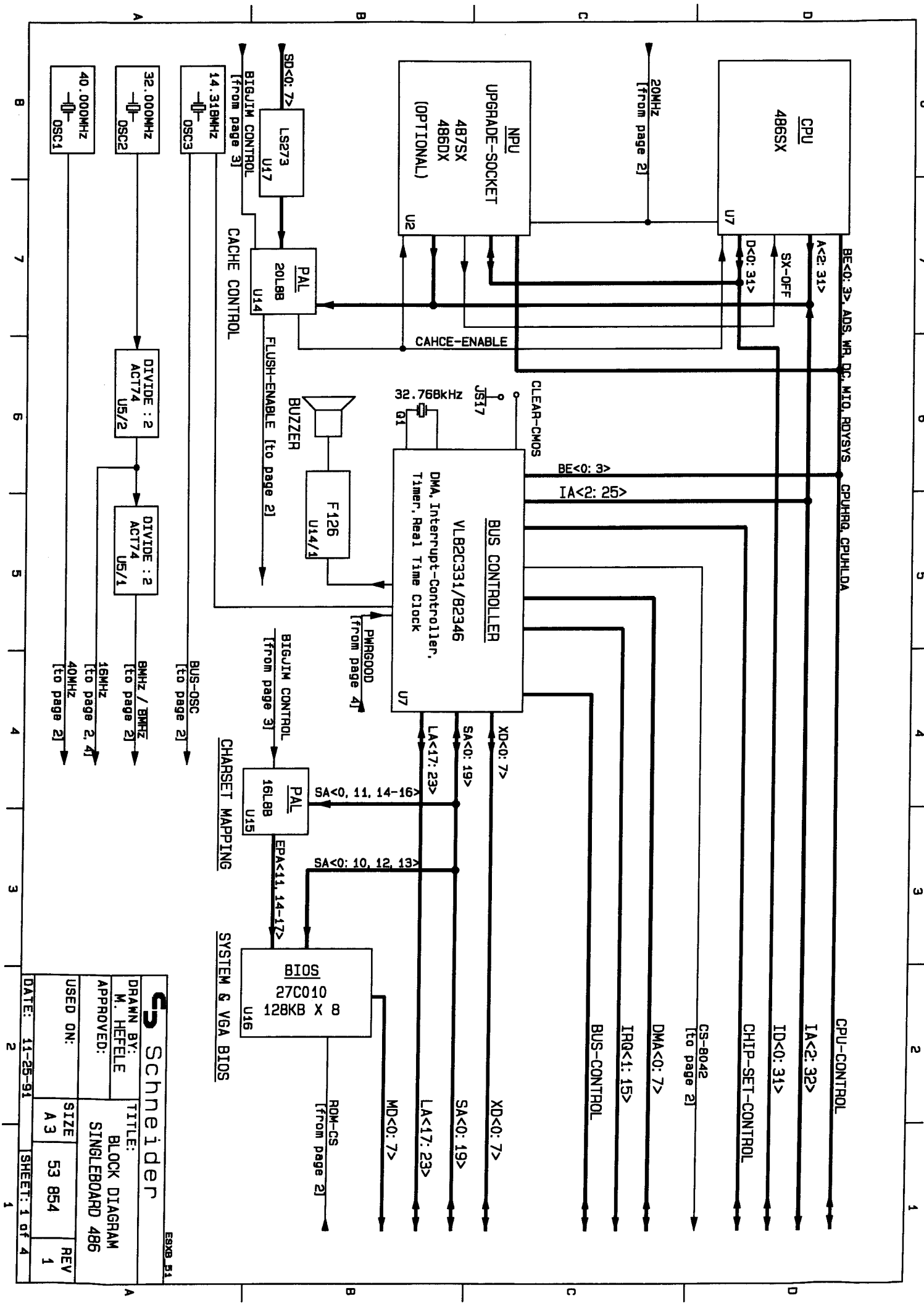
Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 252 00	HD-Laufwerk 200 MB	Hard disk drive 200 MB		L 1

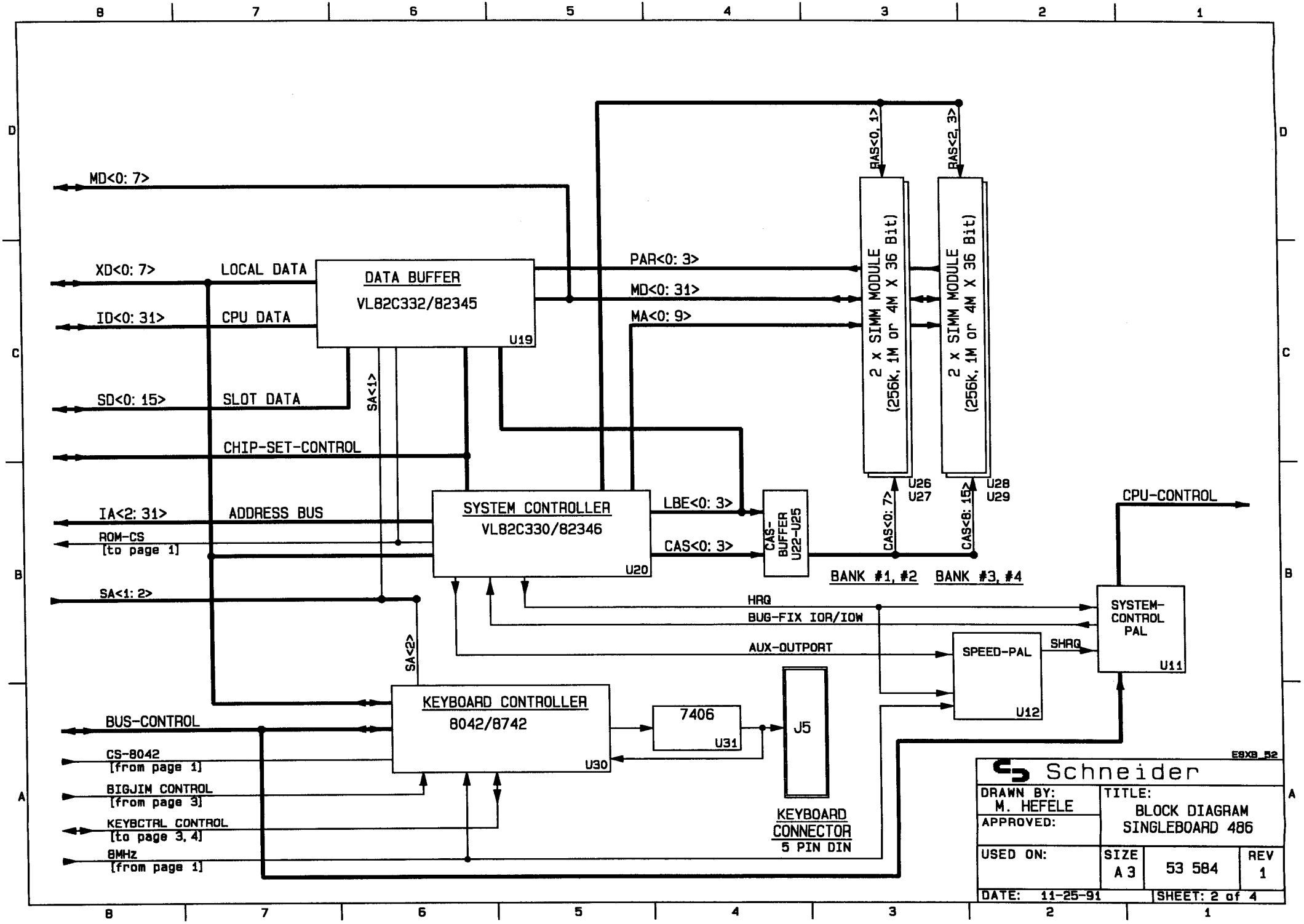
Reparaturpauschale
Repair all-inclusive price

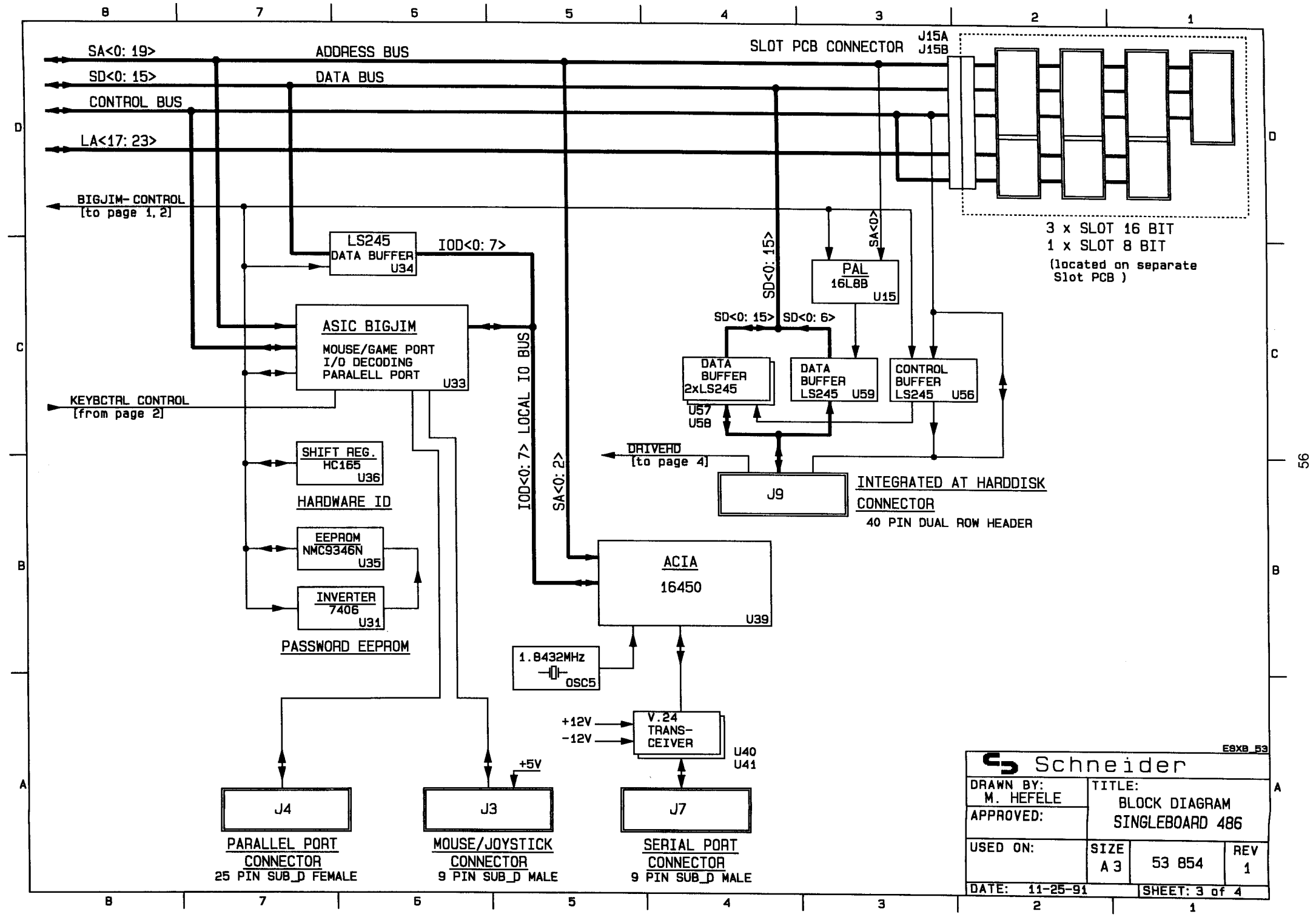
Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
54 091 00	Platine CPU 20 MHz	P.C.B. CPU 20 MHz		H 8

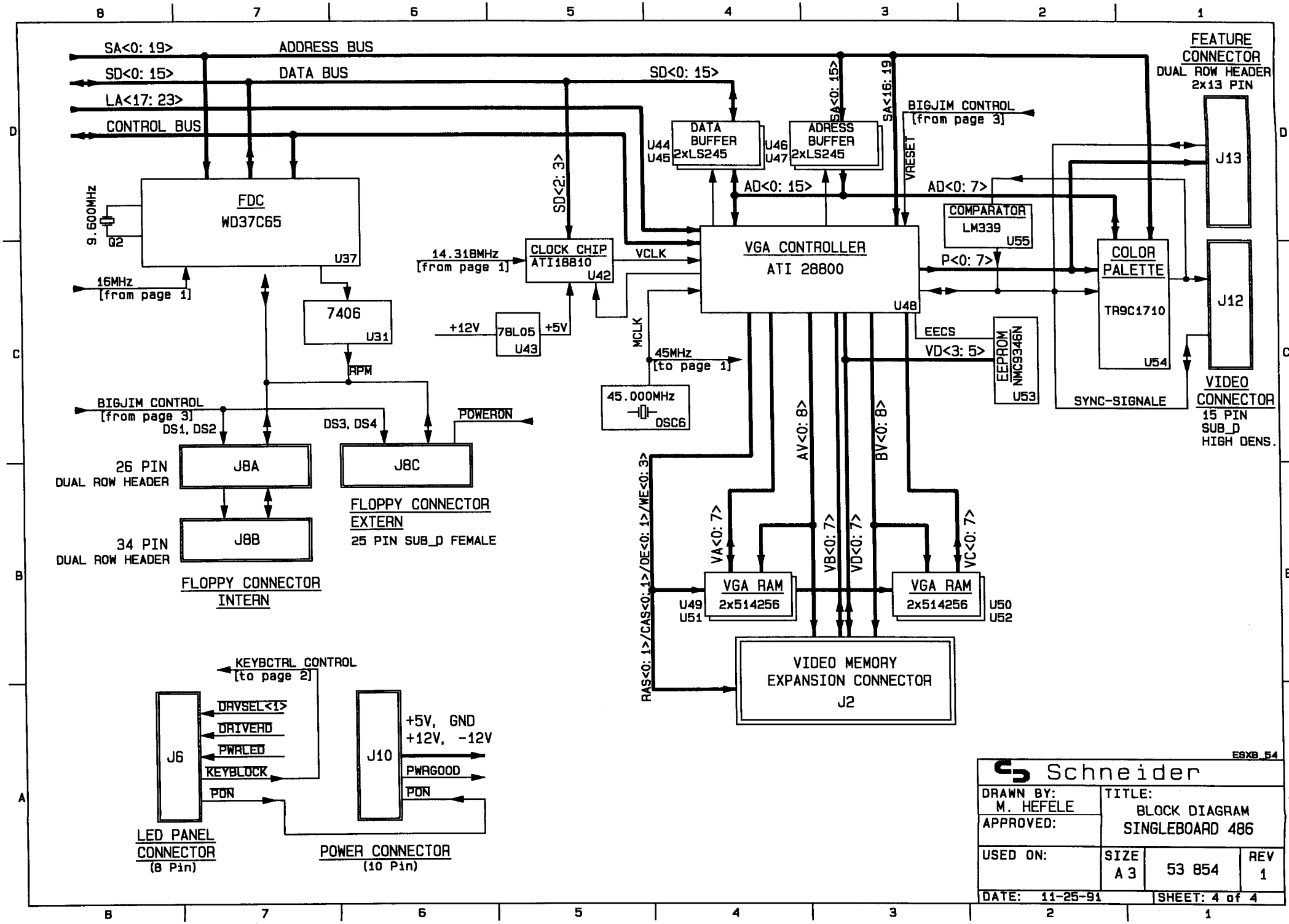
Note: All spare parts with countryindex are reserved for foreign distributors only.

All 3.5″ and 5.25″ floppydisk must be replaced with new one. Schneider pass no exchange price to the distributor or dealer.

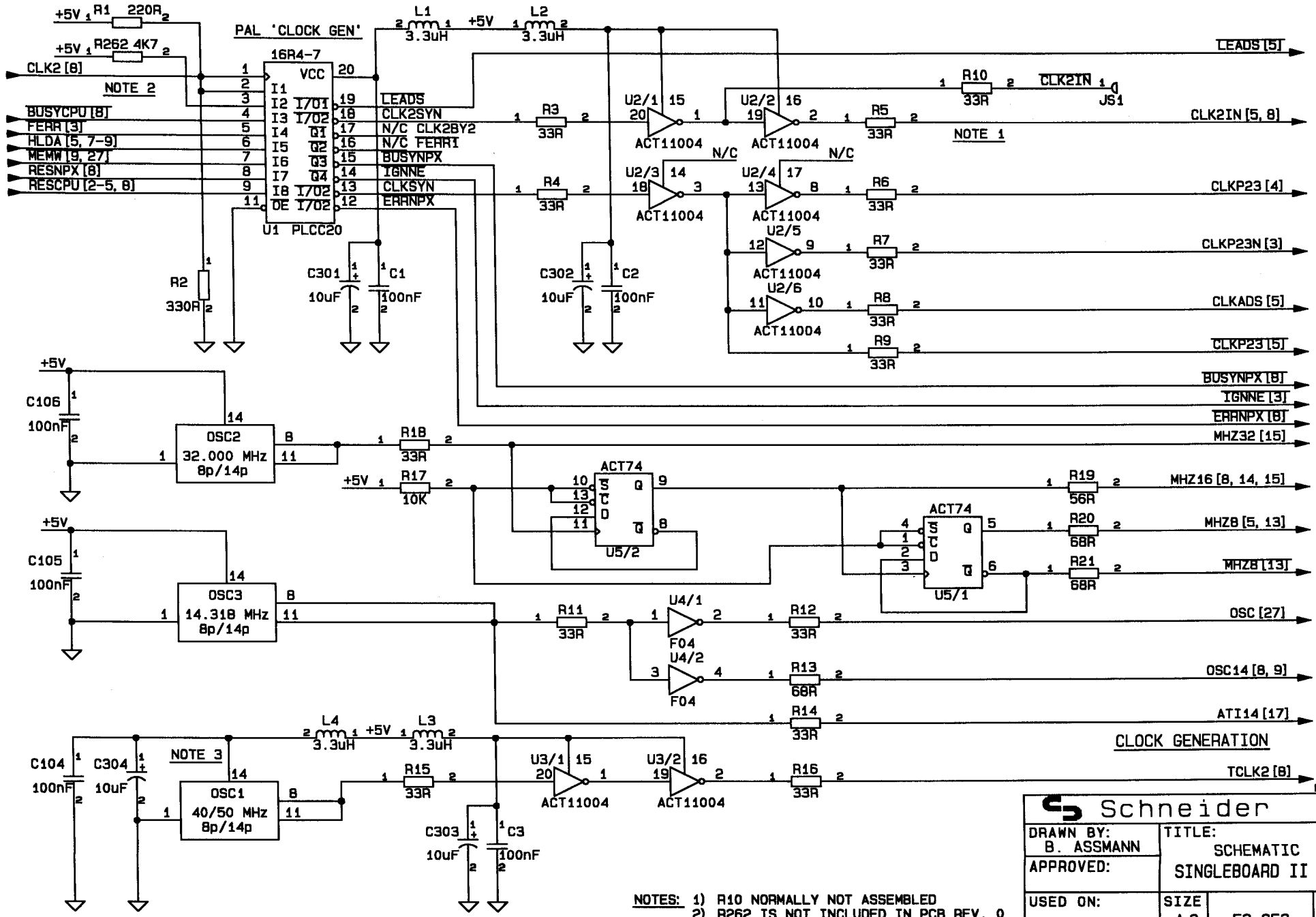

CPU
486SX
U7
NPU
UPGRADE-SOCKET
487SX
486DX
(OPTIONAL)
U2
20MHz
[from page 2]
A<2: 31>
D<0: 31>
SX-OFF
BE<0: 3>, ADS, WR, DC, MIO, ROYSYS
CPUHRQ, CPUHLDA
CPU-CONTROL
IA<2: 32>
ID<0: 31>
CHIP-SET-CONTROL
CS-8042
[to page 2]
DMA<0: 7>
IRQ<1: 15>
BUS-CONTROL
BUS CONTROLLER
VL82C331/82346
DMA, Interrupt-Controller,
Timer, Real Time Clock
U7
BE<0: 3>
IA<2: 25>
CLEAR-CMOS
JS17
32.768kHz
Q1
BUZZER
F126
U14/1
PWRGOOD
[from page 4]
BIGJIM CONTROL
[from page 3]
PAL
16L8B
U15
SA<0, 11, 14-16>
SA<0: 10, 12, 13>
EPA<11, 14-17>
SA<0: 19>
LA<17: 23>
XD<0: 7>
CHARSET MAPPING
SYSTEM & VGA BIOS
BIOS
27C010
128KB X 8
U16
MD<0: 7>
ROM-CS
[from page 2]
LS273
U17
SD<0: 7>
BIGJIM CONTROL
[from page 3]
PAL
20L8B
U14
CACHE CONTROL
CAHCE-ENABLE
FLUSH-ENABLE [to page 2]
DIVIDE : 2
ACT74
U5/2
DIVIDE : 2
ACT74
U5/1
32.000MHz
OSC2
14.318MHz
OSC3
40.000MHz
OSC1
8MHz / 8MHz
[to page 2]
16MHz
[to page 2, 4]
40MHz
[to page 2]
BUS-OSC
[to page 2]
Schneider
ESXB-51
DRAWN BY:
M. HEFELE
APPROVED:
USED ON:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
DATE: 11-25-91
SIZE
A 3
53 854
REV
1
SHEET: 1 of 4

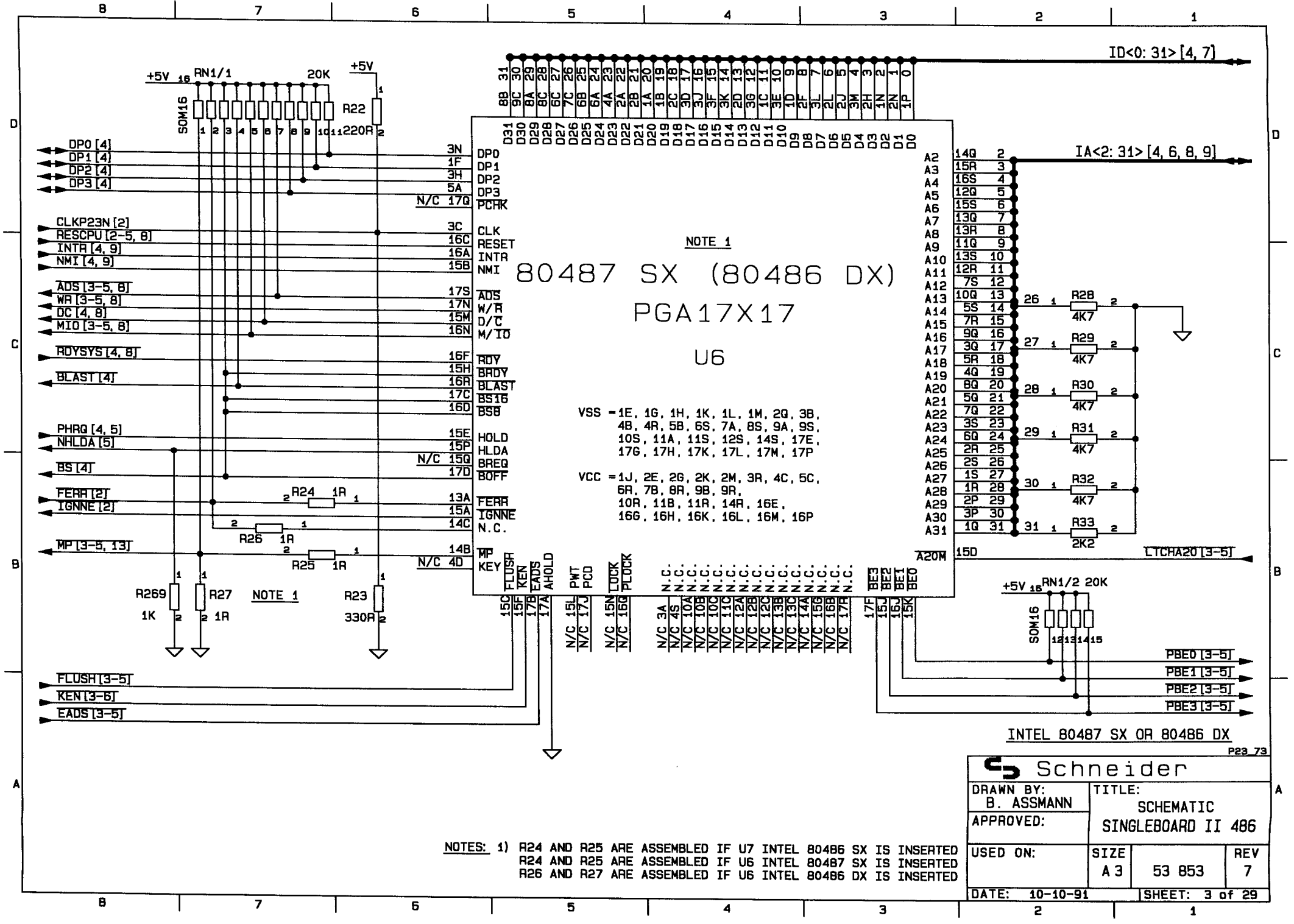

MD<0: 7>
XD<0: 7>
LOCAL DATA
ID<0: 31>
CPU DATA
SD<0: 15>
SLOT DATA
CHIP-SET-CONTROL
IA<2: 31>
ADDRESS BUS
ROM-CS
[to page 1]
SA<1: 2>
BUS-CONTROL
CS-8042
[from page 1]
BIGJIM CONTROL
[from page 3]
KEYBCTRL CONTROL
[to page 3, 4]
8MHz
[from page 1]
DATA BUFFER
VL82C332/82345
U19
SA<1>
SA<2>
SYSTEM CONTROLLER
VL82C330/82346
U20
LBE<0: 3>
CAS<0: 3>
CAS-BUFFER U22-U25
KEYBOARD CONTROLLER
8042/8742
U30
7406
U31
J5
KEYBOARD CONNECTOR
5 PIN DIN
PAR<0: 3>
MD<0: 31>
MA<0: 9>
RAS<0, 1>
RAS<2, 3>
2 x SIMM MODULE
(256k, 1M or 4M X 36 Bit)
U26
U27
U28
U29
CAS<0: 7>
CAS<8: 15>
BANK #1, #2
BANK #3, #4
HRQ
BUG-FIX IOR/IOW
AUX-OUTPORT
SPEED-PAL
U12
SHRQ
SYSTEM-CONTROL PAL
U11
CPU-CONTROL
Schneider
DRAWN BY: M. HEFELE
APPROVED:
USED ON:
TITLE: BLOCK DIAGRAM SINGLEBOARD 486
SIZE A 3
53 584
REV 1
DATE: 11-25-91
SHEET: 2 of 4
E9X9_52

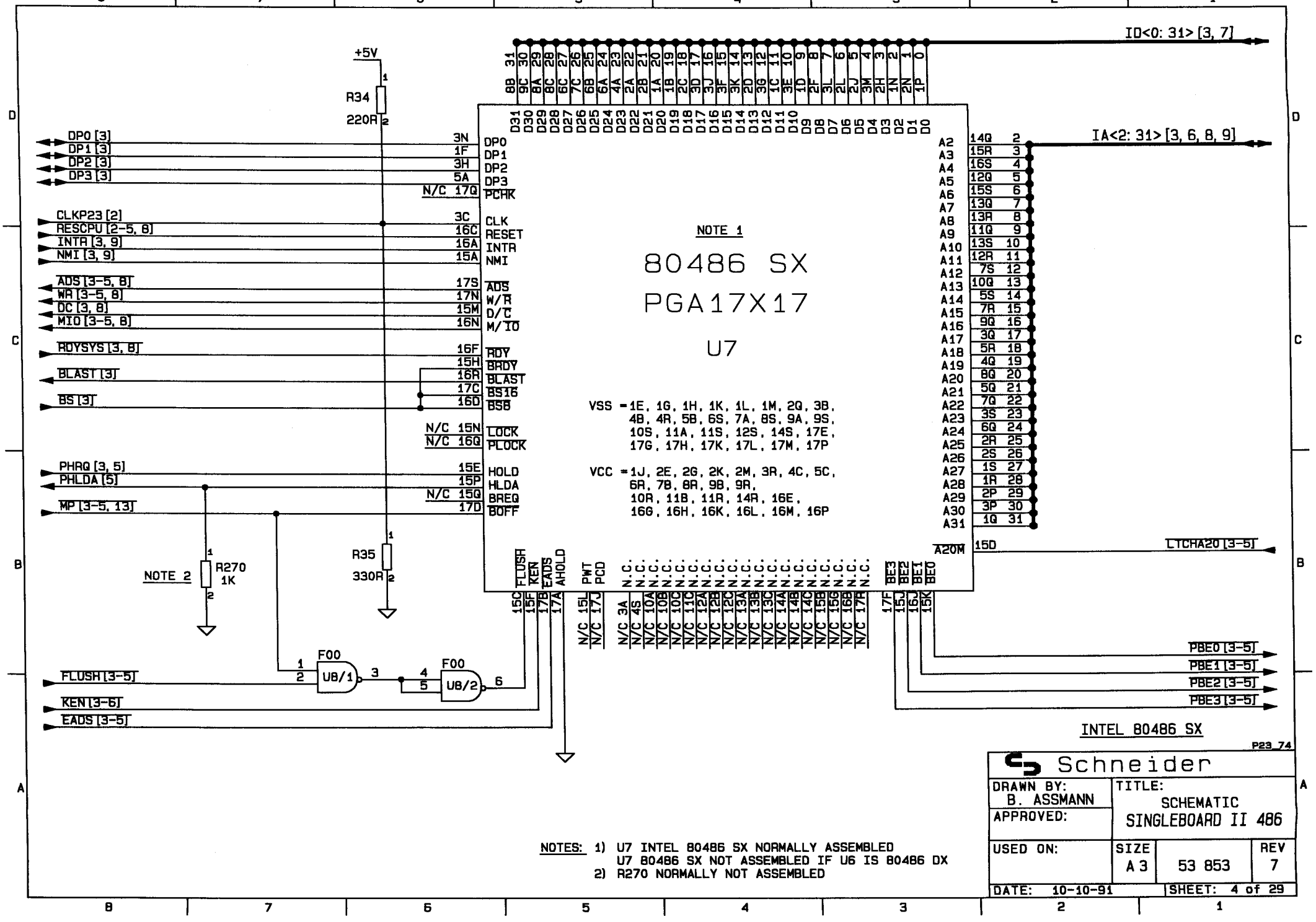

SA<0: 19>
ADDRESS BUS
SD<0: 15>
DATA BUS
CONTROL BUS
LA<17: 23>
SLOT PCB CONNECTOR
J15A
J15B
3 x SLOT 16 BIT
1 x SLOT 8 BIT
(located on separate Slot PCB)
BIGJIM- CONTROL
[to page 1, 2]
LS245
DATA BUFFER
U34
IOD<0: 7>
PAL
16L8B
U15
SD<0: 15>
SA<0>
SD<0: 15>
SD<0: 6>
ASIC BIGJIM
MOUSE/GAME PORT
I/O DECODING
PARALELL PORT
U33
DATA BUFFER
2xLS245
U57
U58
DATA BUFFER
LS245 U59
CONTROL BUFFER
LS245 U56
KEYBCTRL CONTROL
[from page 2]
IOD<0: 7> LOCAL IO BUS
SA<0: 2>
DRIVEHD
[to page 4]
J9
INTEGRATED AT HARDDISK
CONNECTOR
40 PIN DUAL ROW HEADER
SHIFT REG.
HC165
U36
HARDWARE ID
EEPROM
NMC9346N
U35
INVERTER
7406
U31
PASSWORD EEPROM
ACIA
16450
U39
1.8432MHz
OSC5
+12V
-12V
V.24
TRANS-
CEIVER
U40
U41
+5V
J4
J3
J7
PARALLEL PORT
CONNECTOR
25 PIN SUB_D FEMALE
MOUSE/JOYSTICK
CONNECTOR
9 PIN SUB_D MALE
SERIAL PORT
CONNECTOR
9 PIN SUB_D MALE
ESXB_53
Schneider
DRAWN BY:
M. HEFELE
APPROVED:
USED ON:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
SIZE
A 3
53 854
REV
1
DATE: 11-25-91
SHEET: 3 of 4
56

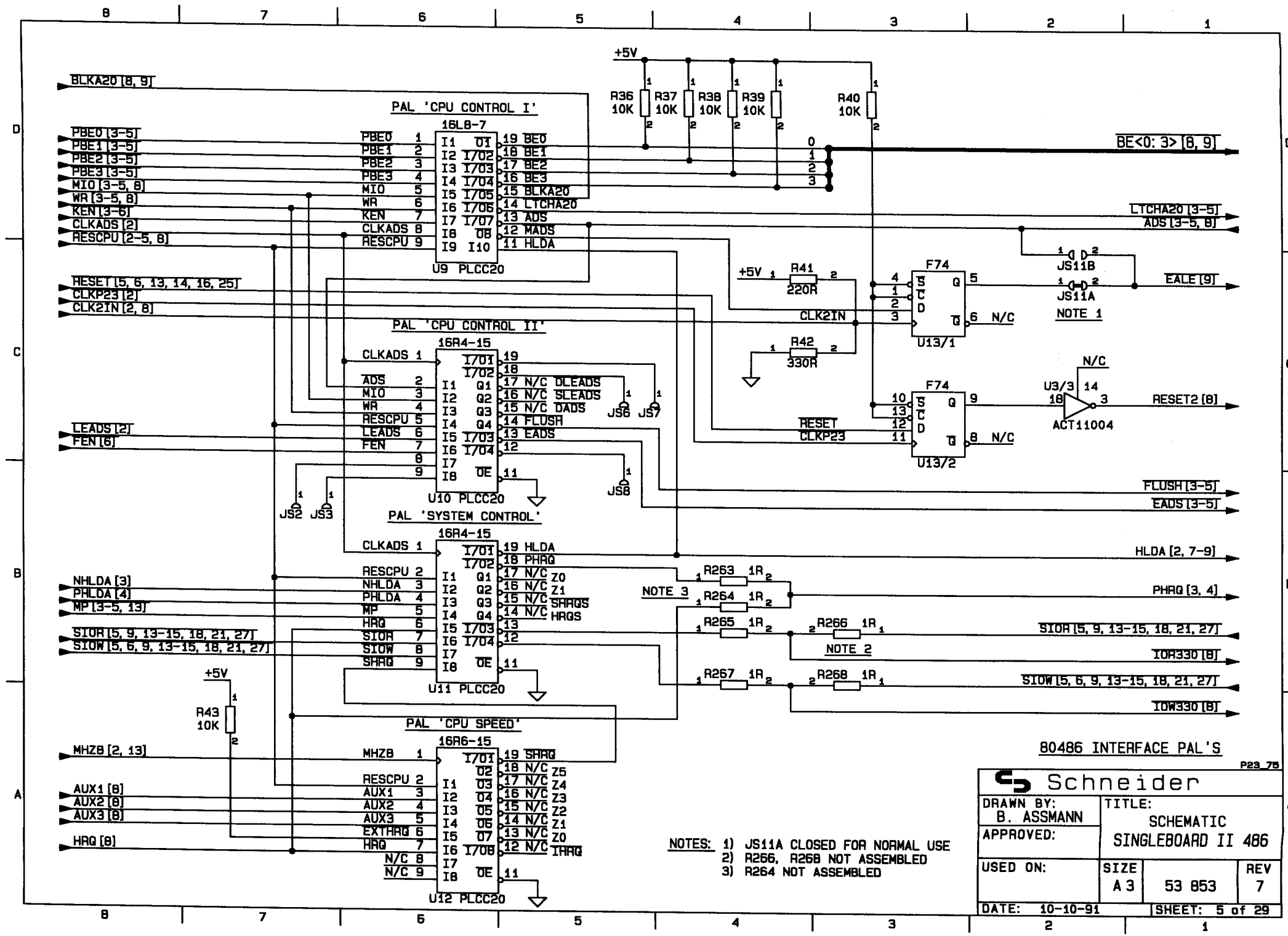

SA<0: 19>
ADDRESS BUS
SD<0: 15>
DATA BUS
LA<17: 23>
CONTROL BUS
SD<0: 15>
SA<0: 15>
SA<16: 19
FEATURE CONNECTOR
DUAL ROW HEADER
2x13 PIN
BIGJIM CONTROL
[from page 3]
VRESET
J13
DATA BUFFER
2xLS245
U44
U45
ADRESS BUFFER
2xLS245
U46
U47
AD<0: 15>
AD<0: 7>
SD<2: 3>
9.600MHz
Q2
FDC
WD37C65
U37
16MHz
[from page 1]
14.318MHz
[from page 1]
CLOCK CHIP
ATI18810
U42
VCLK
VGA CONTROLLER
ATI 28800
U48
COMPARATOR
LM339
U55
P<0: 7>
COLOR PALETTE
TR9C1710
U54
J12
7406
U31
RPM
+12V
78L05
U43
+5V
MCLK
45MHz
[to page 1]
45.000MHz
OSC6
EECS
VD<3: 5>
EEPROM
NMC9346N
U53
SYNC-SIGNALE
VIDEO CONNECTOR
15 PIN
SUB_D
HIGH DENS.
BIGJIM CONTROL
[from page 3]
DS1, DS2
DS3, DS4
POWERON
26 PIN
DUAL ROW HEADER
J8A
J8C
FLOPPY CONNECTOR
EXTERN
25 PIN SUB_D FEMALE
34 PIN
DUAL ROW HEADER
J8B
FLOPPY CONNECTOR
INTERN
AV<0: 8>
BV<0: 8>
VA<0: 7>
VB<0: 7>
VD<0: 7>
VC<0: 7>
RAS<0: 1>/CAS<0: 1>/OE<0: 1>/WE<0: 3>
VGA RAM
2x514256
U49
U51
VGA RAM
2x514256
U50
U52
VIDEO MEMORY
EXPANSION CONNECTOR
J2
KEYBCTRL CONTROL
[to page 2]
J6
DRVSEL<1>
DRIVEHD
PWRLED
KEYBLOCK
PON
LED PANEL
CONNECTOR
(8 Pin)
J10
+5V, GND
+12V, -12V
PWRGOOD
PON
POWER CONNECTOR
(10 Pin)
ESXB_54
Schneider
DRAWN BY:
M. HEFELE
APPROVED:
TITLE:
BLOCK DIAGRAM
SINGLEBOARD 486
USED ON:
SIZE
A3
53 854
REV
1
DATE: 11-25-91
SHEET: 4 of 4

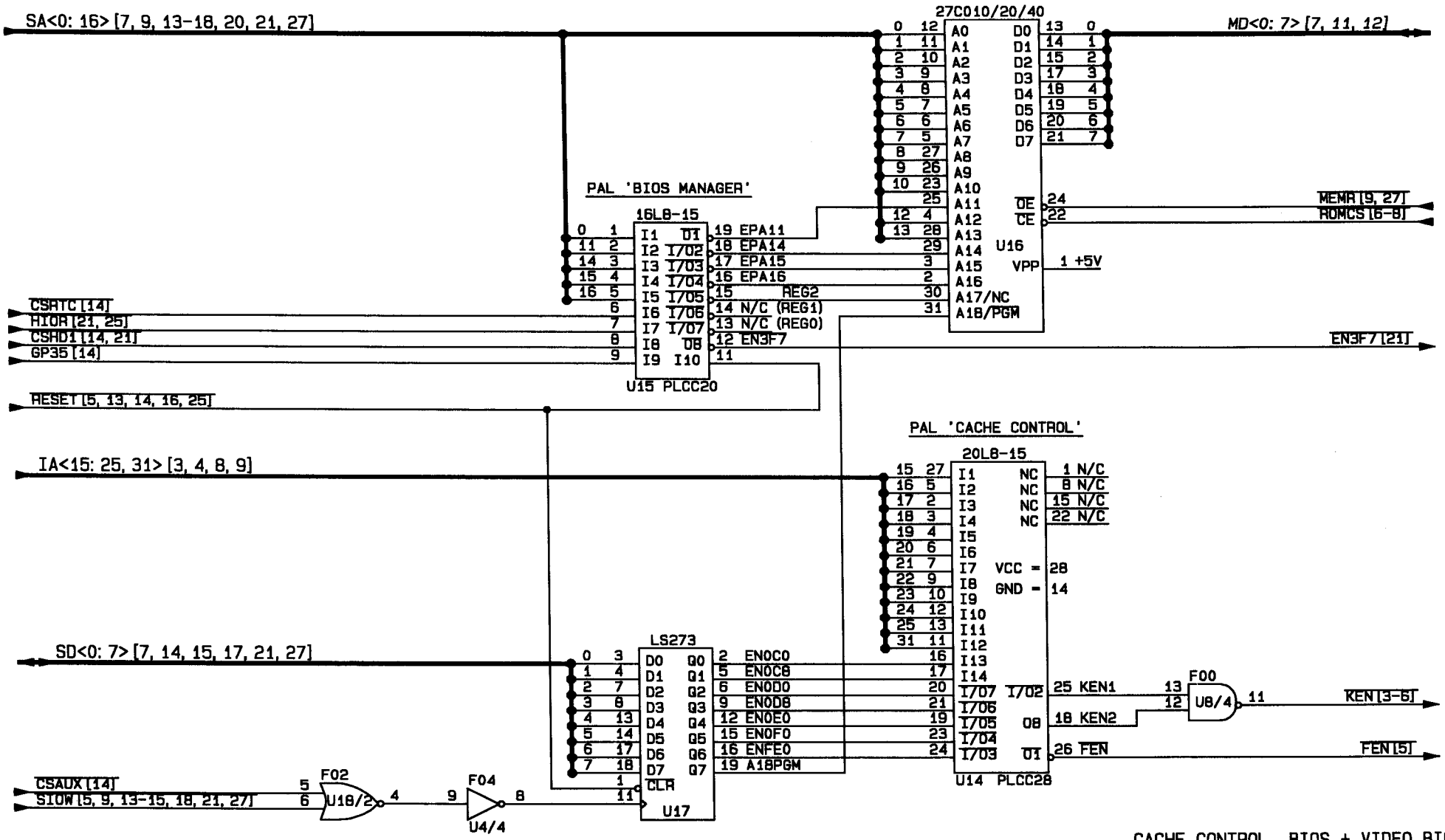
Notizen
Note


PAL 'CLOCK GEN'
16R4-7
U1 PLCC20
NOTE 2
NOTE 1
NOTE 3
CLK2 [8]
BUSYCPU [8]
FERR [3]
HLDA [5, 7-9]
MEMW [9, 27]
RESNPX [8]
RESCPU [2-5, 8]
LEADS
CLK2SYN
N/C CLK2BY2
N/C FERR1
BUSYNPX
IGNNE
CLKSYN
ERRNPX
R1 220R
R262 4K7
R2 330R
L1 3.3uH
L2 3.3uH
L3 3.3uH
L4 3.3uH
C301 10uF
C1 100nF
C302 10uF
C2 100nF
C303 10uF
C3 100nF
C304 10uF
C104 100nF
C105 100nF
C106 100nF
R3 33R
R4 33R
R5 33R
R6 33R
R7 33R
R8 33R
R9 33R
R10 33R
CLK2IN
JS1
U2/1
U2/2
U2/3
U2/4
U2/5
U2/6
ACT11004
N/C
LEADS [5]
CLK2IN [5, 8]
CLKP23 [4]
CLKP23N [3]
CLKADS [5]
CLKP23 [5]
BUSYNPX [8]
IGNNE [3]
ERRNPX [8]
MHZ32 [15]
OSC2
32.000 MHz
8p/14p
OSC3
14.318 MHz
8p/14p
OSC1
40/50 MHz
8p/14p
R17 10K
R18 33R
R19 56R
R20 68R
R21 68R
ACT74
U5/1
U5/2
MHZ16 [8, 14, 15]
MHZ8 [5, 13]
MHZ8 [13]
R11 33R
R12 33R
R13 68R
R14 33R
R15 33R
R16 33R
U4/1
U4/2
F04
OSC [27]
OSC14 [8, 9]
ATI14 [17]
U3/1
U3/2
TCLK2 [8]
P23, 72
CLOCK GENERATION
NOTES: 1) R10 NORMALLY NOT ASSEMBLED
2) R262 IS NOT INCLUDED IN PCB REV. 0
3) OSC1 NORMALLY 40 MHz
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 2 of 29


ID<0: 31> [4, 7]
IA<2: 31> [4, 6, 8, 9]
80487 SX (80486 DX)
PGA17X17
U6
NOTE 1
VSS = 1E, 1G, 1H, 1K, 1L, 1M, 2Q, 3B, 4B, 4R, 5B, 6S, 7A, 8S, 9A, 9S, 10S, 11A, 11S, 12S, 14S, 17E, 17G, 17H, 17K, 17L, 17M, 17P
VCC = 1J, 2E, 2G, 2K, 2M, 3R, 4C, 5C, 6R, 7B, 8R, 9B, 9R, 10R, 11B, 11R, 14R, 16E, 16G, 16H, 16K, 16L, 16M, 16P
DP0 [4]
DP1 [4]
DP2 [4]
DP3 [4]
CLKP23N [2]
RESCPU [2-5, 8]
INTR [4, 9]
NMI [4, 9]
ADS [3-5, 8]
WR [3-5, 8]
DC [4, 8]
MIO [3-5, 8]
RDYSYS [4, 8]
BLAST [4]
PHRQ [4, 5]
NHLDA [5]
BS [4]
FERR [2]
IGNNE [2]
MP [3-5, 13]
FLUSH [3-5]
KEN [3-6]
EADS [3-5]
LTCHA20 [3-5]
PBE0 [3-5]
PBE1 [3-5]
PBE2 [3-5]
PBE3 [3-5]
RN1/1 20K
SOM16
R22 220R
R24 1R
R26 1R
R25 1R
R269 1K
R27 1R
R23 330R
RN1/2 20K
R28 4K7
R29 4K7
R30 4K7
R31 4K7
R32 4K7
R33 2K2
INTEL 80487 SX OR 80486 DX
P23_73
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 3 of 29
NOTES: 1) R24 AND R25 ARE ASSEMBLED IF U7 INTEL 80486 SX IS INSERTED
R24 AND R25 ARE ASSEMBLED IF U6 INTEL 80487 SX IS INSERTED
R26 AND R27 ARE ASSEMBLED IF U6 INTEL 80486 DX IS INSERTED


ID<0: 31> [3, 7]
IA<2: 31> [3, 6, 8, 9]
+5V
R34
220R
NOTE 1
80486 SX
PGA17X17
U7
VSS = 1E, 1G, 1H, 1K, 1L, 1M, 2Q, 3B, 4B, 4R, 5B, 6S, 7A, 8S, 9A, 9S, 10S, 11A, 11S, 12S, 14S, 17E, 17G, 17H, 17K, 17L, 17M, 17P
VCC = 1J, 2E, 2G, 2K, 2M, 3R, 4C, 5C, 6R, 7B, 8R, 9B, 9R, 10R, 11B, 11R, 14R, 16E, 16G, 16H, 16K, 16L, 16M, 16P
DP0 [3]
DP1 [3]
DP2 [3]
DP3 [3]
CLKP23 [2]
RESCPU [2-5, 8]
INTR [3, 9]
NMI [3, 9]
ADS [3-5, 8]
WR [3-5, 8]
DC [3, 8]
MIO [3-5, 8]
RDYSYS [3, 8]
BLAST [3]
BS [3]
PHRQ [3, 5]
PHLDA [5]
HP [3-5, 13]
NOTE 2
R270
1K
R35
330R
F00
U8/1
U8/2
FLUSH [3-5]
KEN [3-6]
EADS [3-5]
LTCHA20 [3-5]
PBE0 [3-5]
PBE1 [3-5]
PBE2 [3-5]
PBE3 [3-5]
INTEL 80486 SX
P23_74
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 4 of 29
NOTES: 1) U7 INTEL 80486 SX NORMALLY ASSEMBLED
U7 80486 SX NOT ASSEMBLED IF U6 IS 80486 DX
2) R270 NORMALLY NOT ASSEMBLED

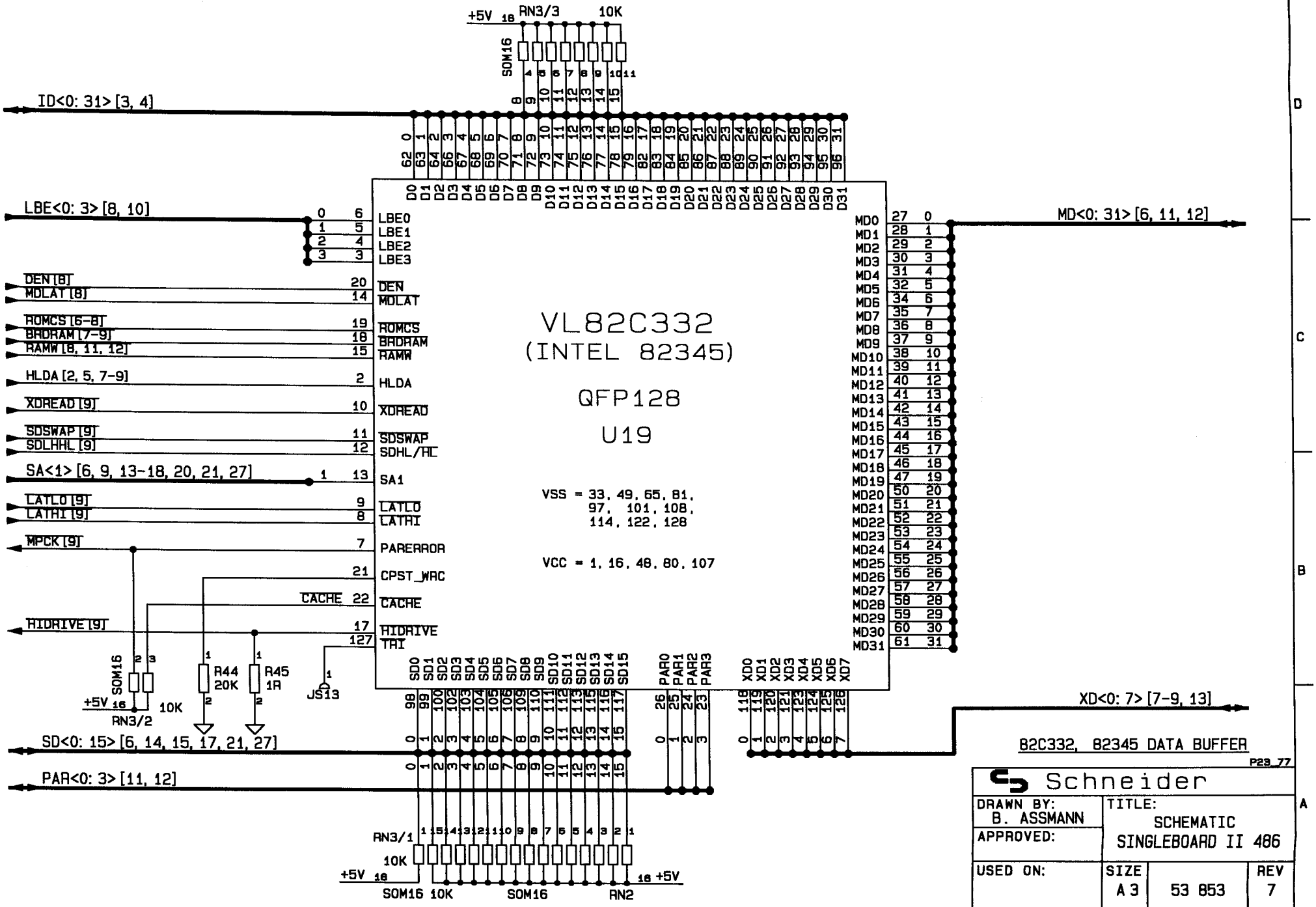

PAL 'CPU CONTROL I'
16L8-7
U9 PLCC20
PAL 'CPU CONTROL II'
16R4-15
U10 PLCC20
PAL 'SYSTEM CONTROL'
16R4-15
U11 PLCC20
PAL 'CPU SPEED'
16R6-15
U12 PLCC20
F74
U13/1
U13/2
ACT11004
JS11A
JS11B
JS2
JS3
JS6
JS7
JS8
R36 10K
R37 10K
R38 10K
R39 10K
R40 10K
R41 220R
R42 330R
R43 10K
R263 1R
R264 1R
R265 1R
R266 1R
R267 1R
R268 1R
NOTE 1
NOTE 2
NOTE 3
BLKA20 [8, 9]
PBE0 [3-5]
PBE1 [3-5]
PBE2 [3-5]
PBE3 [3-5]
MIO [3-5, 8]
WR [3-5, 8]
KEN [3-6]
CLKADS [2]
RESCPU [2-5, 8]
RESET [5, 6, 13, 14, 16, 25]
CLKP23 [2]
CLK2IN [2, 8]
LEADS [2]
FEN [6]
NHLDA [3]
PHLDA [4]
MP [3-5, 13]
SIOR [5, 9, 13-15, 18, 21, 27]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
MHZ8 [2, 13]
AUX1 [8]
AUX2 [8]
AUX3 [8]
HRQ [8]
BE<0: 3> [8, 9]
LTCHA20 [3-5]
ADS [3-5, 8]
EALE [9]
RESET2 [8]
FLUSH [3-5]
EADS [3-5]
HLDA [2, 7-9]
PHRQ [3, 4]
IOR330 [8]
IOW330 [8]
80486 INTERFACE PAL'S
P23_75
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 5 of 29
NOTES: 1) JS11A CLOSED FOR NORMAL USE
2) R266, R268 NOT ASSEMBLED
3) R264 NOT ASSEMBLED

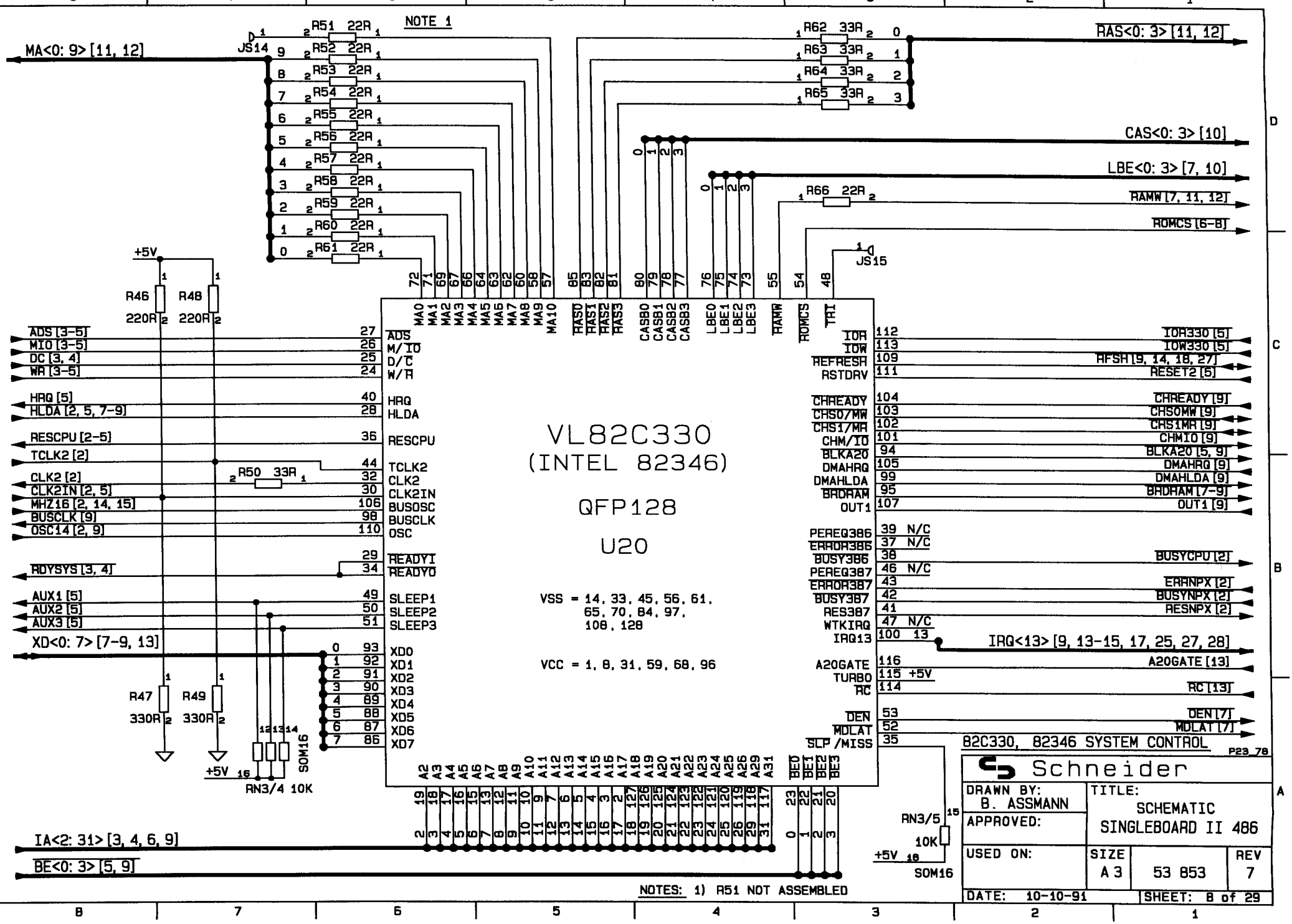


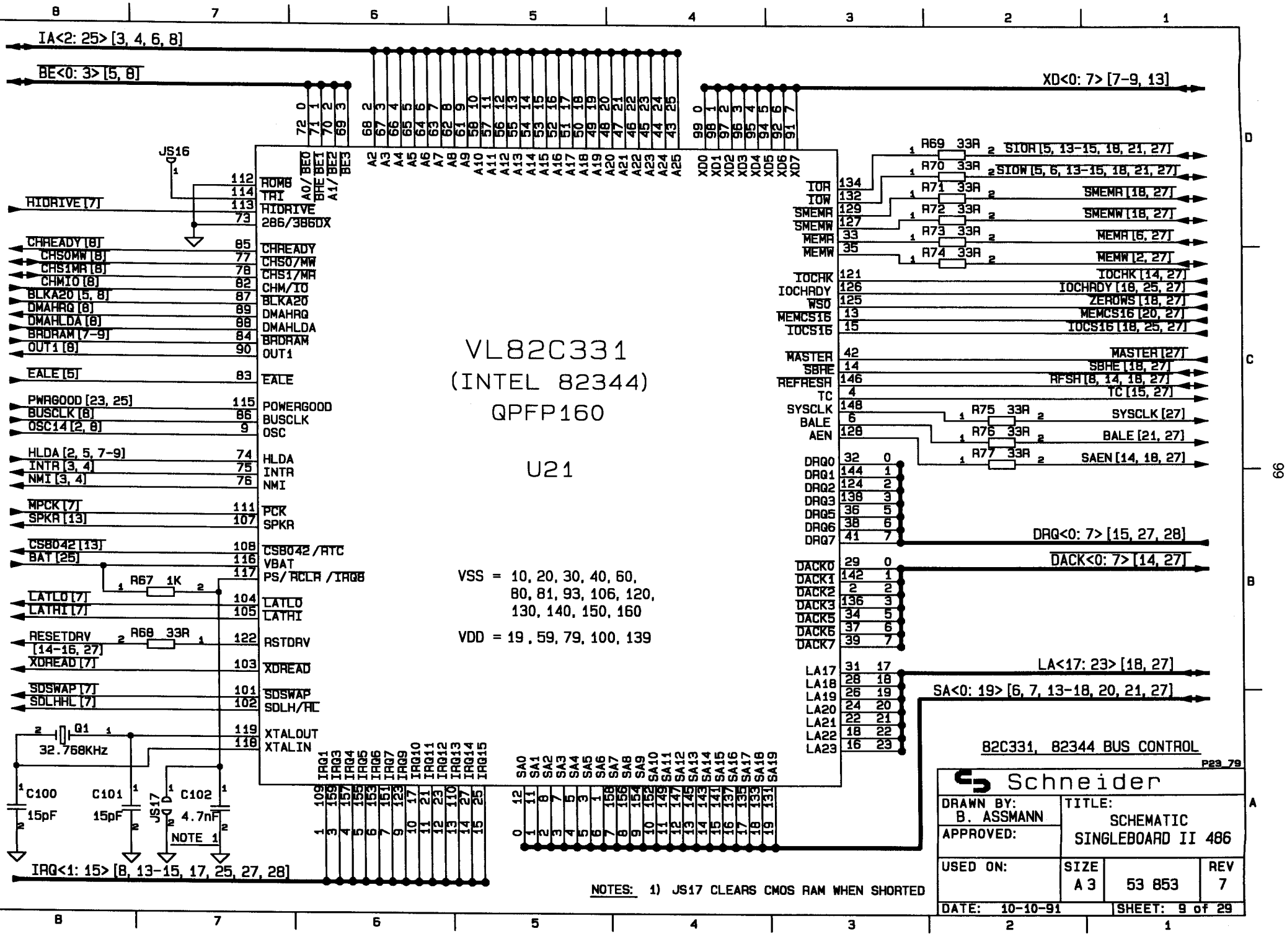
CACHE CONTROL, BIOS + VIDEO BIOS

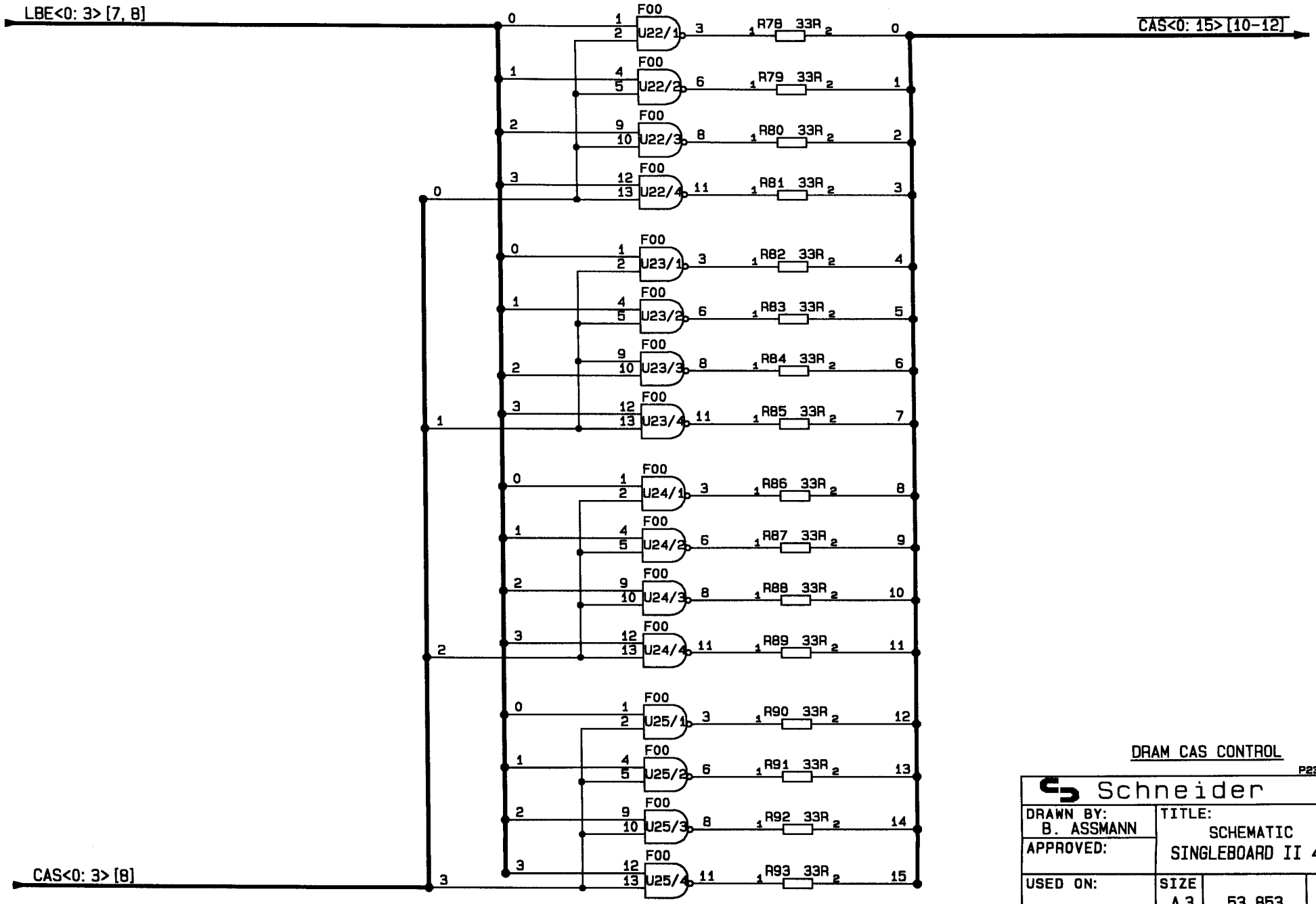
P23_76

Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A3	53 853	REV 7
DATE: 10-10-91	SHEET: 6 of 29		


VL82C332
(INTEL 82345)
QFP128
U19
VSS = 33, 49, 65, 81, 97, 101, 108, 114, 122, 128
VCC = 1, 16, 48, 80, 107
RN3/3 10K
ID<0: 31> [3, 4]
LBE<0: 3> [8, 10]
DEN [8]
MDLAT [8]
ROMCS [6-8]
BADRAM [7-9]
RAMW [8, 11, 12]
HLDA [2, 5, 7-9]
XDREAD [9]
SDSWAP [9]
SDLHHL [9]
SA<1> [6, 9, 13-18, 20, 21, 27]
LATLO [9]
LATHI [9]
MPCK [9]
CACHE
HIDRIVE [9]
MD<0: 31> [6, 11, 12]
XD<0: 7> [7-9, 13]
SD<0: 15> [6, 14, 15, 17, 21, 27]
PAR<0: 3> [11, 12]
R44 20K
R45 1R
JS13
RN3/2 10K
RN3/1 10K
RN2
SOM16
82C332, 82345 DATA BUFFER
P23_77
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 7 of 29


MA<0: 9> [11, 12]
JS14
R51 22R
R52 22R
R53 22R
R54 22R
R55 22R
R56 22R
R57 22R
R58 22R
R59 22R
R60 22R
R61 22R
NOTE 1
R62 33R
R63 33R
R64 33R
R65 33R
RAS<0: 3> [11, 12]
CAS<0: 3> [10]
LBE<0: 3> [7, 10]
R66 22R
RAMW [7, 11, 12]
ROMCS [6-8]
JS15
+5V
R46 220R
R48 220R
R47 330R
R49 330R
R50 33R
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
RAS0
RAS1
RAS2
RAS3
CASB0
CASB1
CASB2
CASB3
LBE0
LBE1
LBE2
LBE3
RAMW
ROMCS
TRI
ADS [3-5]
MIO [3-5]
DC [3, 4]
WR [3-5]
HRQ [5]
HLDA [2, 5, 7-9]
RESCPU [2-5]
TCLK2 [2]
CLK2 [2]
CLK2IN [2, 5]
MHZ16 [2, 14, 15]
BUSCLK [9]
OSC14 [2, 9]
RDYSYS [3, 4]
AUX1 [5]
AUX2 [5]
AUX3 [5]
XD<0: 7> [7-9, 13]
ADS
M/IO
D/C
W/R
HRQ
HLDA
RESCPU
TCLK2
CLK2
CLK2IN
BUSOSC
BUSCLK
OSC
READYI
READYO
SLEEP1
SLEEP2
SLEEP3
XD0
XD1
XD2
XD3
XD4
XD5
XD6
XD7
VL82C330
(INTEL 82346)
QFP128
U20
VSS = 14, 33, 45, 56, 61, 65, 70, 84, 97, 108, 128
VCC = 1, 8, 31, 59, 68, 96
IOR
IOW
REFRESH
RSTDRV
CHREADY
CHS0/MW
CHS1/MR
CHM/IO
BLKA20
DMAHRQ
DMAHLDA
BADRAM
OUT1
PEREQ386
ERROR386
BUSY386
PEREQ387
ERROR387
BUSY387
RES387
WTKIRQ
IRQ13
A20GATE
TURBO
RC
DEN
MDLAT
SLP /MISS
IOR330 [5]
IOW330 [5]
RFSH [9, 14, 18, 27]
RESET2 [5]
CHREADY [9]
CHS0MW [9]
CHS1MR [9]
CHM/IO [9]
BLKA20 [5, 9]
DMAHRQ [9]
DMAHLDA [9]
BADRAM [7-9]
OUT1 [9]
N/C
BUSYCPU [2]
ERRNPX [2]
BUSYNPX [2]
RESNPX [2]
IRQ<13> [9, 13-15, 17, 25, 27, 28]
A20GATE [13]
RC [13]
DEN [7]
MDLAT [7]
82C330, 82346 SYSTEM CONTROL
P23_78
RN3/4 10K
SOM16
RN3/5 10K
IA<2: 31> [3, 4, 6, 9]
BE<0: 3> [5, 9]
NOTES: 1) R51 NOT ASSEMBLED
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 8 of 29

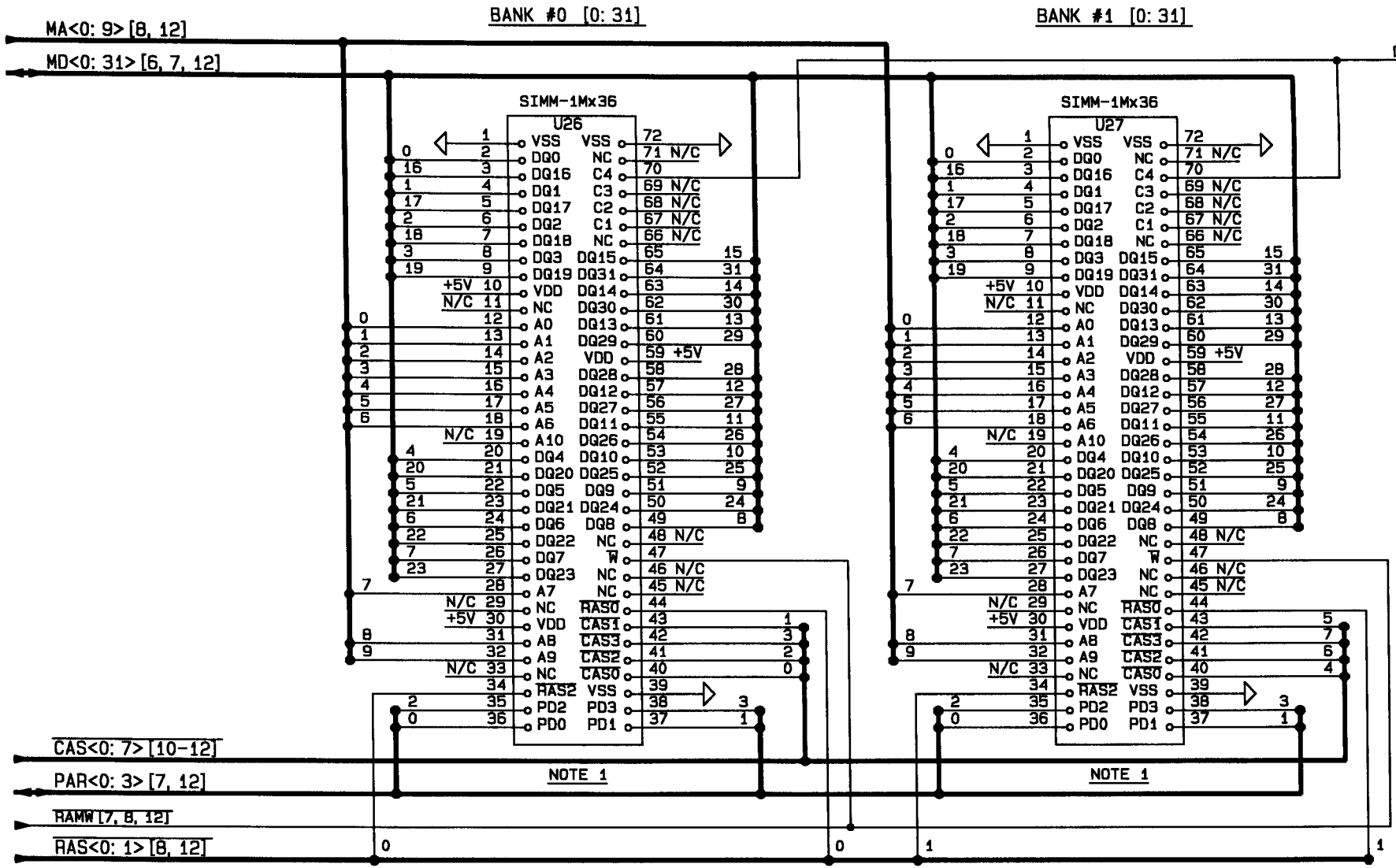

IA<2: 25> [3, 4, 6, 8]
BE<0: 3> [5, 8]
XD<0: 7> [7-9, 13]
VL82C331
(INTEL 82344)
QPFP160
U21
VSS = 10, 20, 30, 40, 60, 80, 81, 93, 106, 120, 130, 140, 150, 160
VDD = 19, 59, 79, 100, 139
HIDRIVE [7]
CHREADY [8]
CHS0MW [8]
CHS1MR [8]
CHMIO [8]
BLKA20 [5, 8]
DMAHRQ [8]
DMAHLDA [8]
BRDRAM [7-9]
OUT1 [8]
EALE [5]
PWRGOOD [23, 25]
BUSCLK [8]
OSC14 [2, 8]
HLDA [2, 5, 7-9]
INTR [3, 4]
NMI [3, 4]
MPCK [7]
SPKR [13]
CS8042 [13]
BAT [25]
R67 1K
LATLO [7]
LATHI [7]
RESETDRV [14-16, 27]
R68 33R
XDREAD [7]
SDSWAP [7]
SDLHHL [7]
Q1
32.768KHz
C100 15pF
C101 15pF
JS17
C102 4.7nF
NOTE 1
IRQ<1: 15> [8, 13-15, 17, 25, 27, 28]
SA<0: 19> [6, 7, 13-18, 20, 21, 27]
LA<17: 23> [18, 27]
DRQ<0: 7> [15, 27, 28]
DACK<0: 7> [14, 27]
R69 33R SIOR [5, 13-15, 18, 21, 27]
R70 33R SIOW [5, 6, 13-15, 18, 21, 27]
R71 33R SMEMR [18, 27]
R72 33R SMEMW [18, 27]
R73 33R MEMR [6, 27]
R74 33R MEMW [2, 27]
IOCHK [14, 27]
IOCHRDY [18, 25, 27]
ZEROWS [18, 27]
MEMCS16 [20, 27]
IOCS16 [18, 25, 27]
MASTER [27]
SBHE [18, 27]
RFSH [8, 14, 18, 27]
TC [15, 27]
R75 33R SYSCLK [27]
R76 33R BALE [21, 27]
R77 33R SAEN [14, 18, 27]
NOTES: 1) JS17 CLEARS CMOS RAM WHEN SHORTED
82C331, 82344 BUS CONTROL
P23_79
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 9 of 29



DRAM CAS CONTROL

P23_710

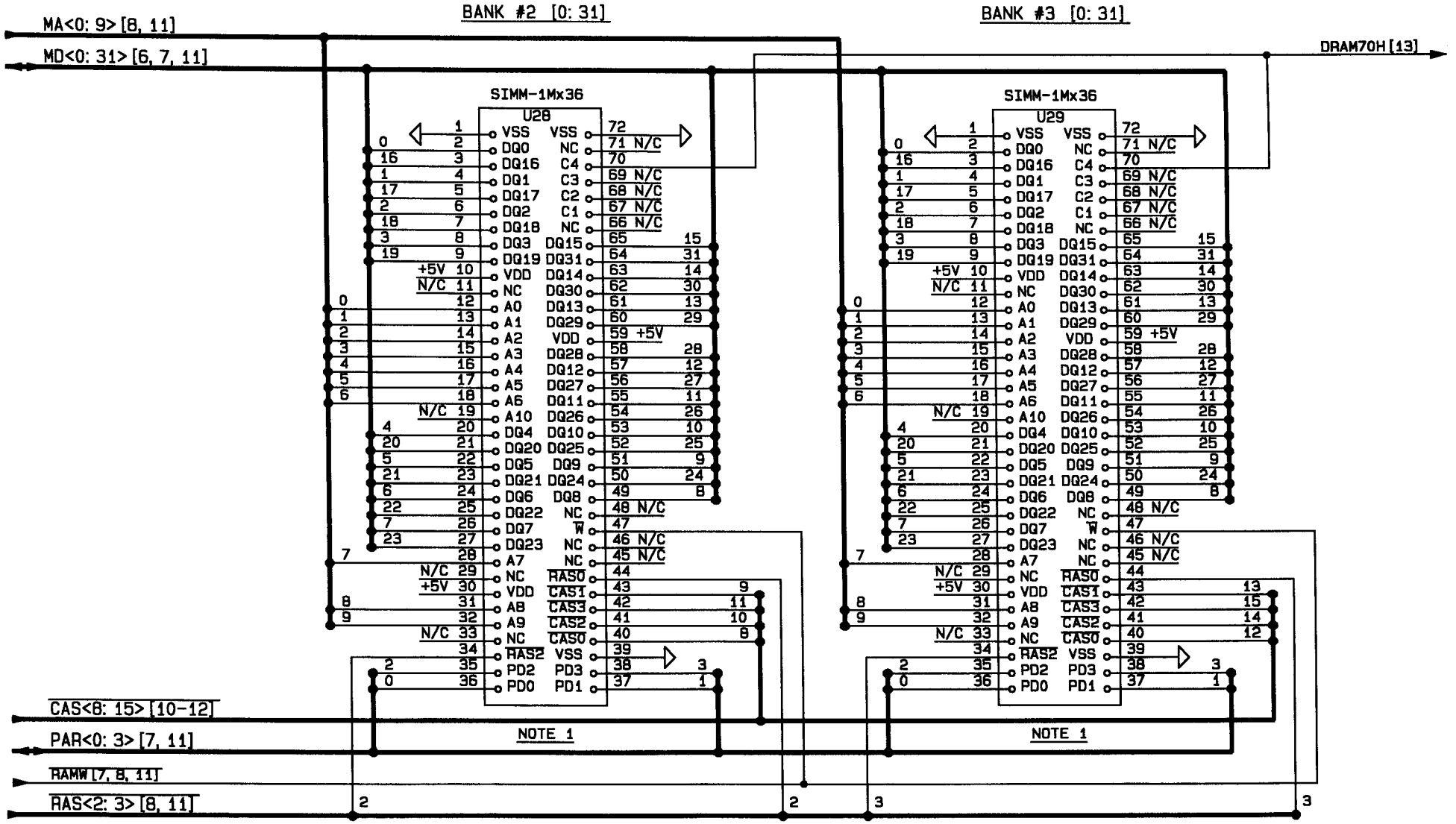
Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 10 of 29		



NOTES: 1) 256Kx36 (1MB) OR 1Mx36 (4MB) SIMM MODULES

4MB-16MB DRAM BANK #0 AND #1 P23_711

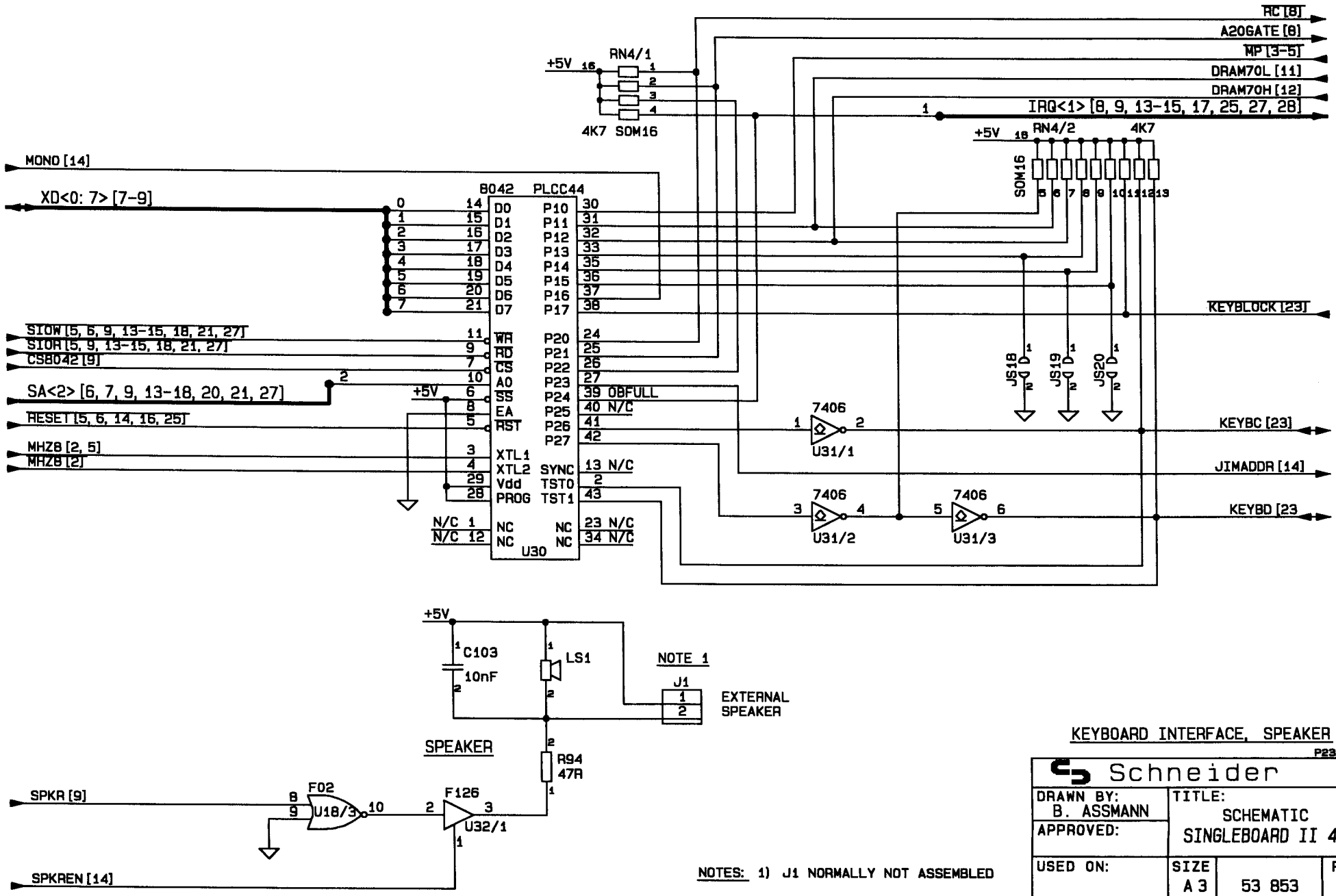
Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 11 of 29		



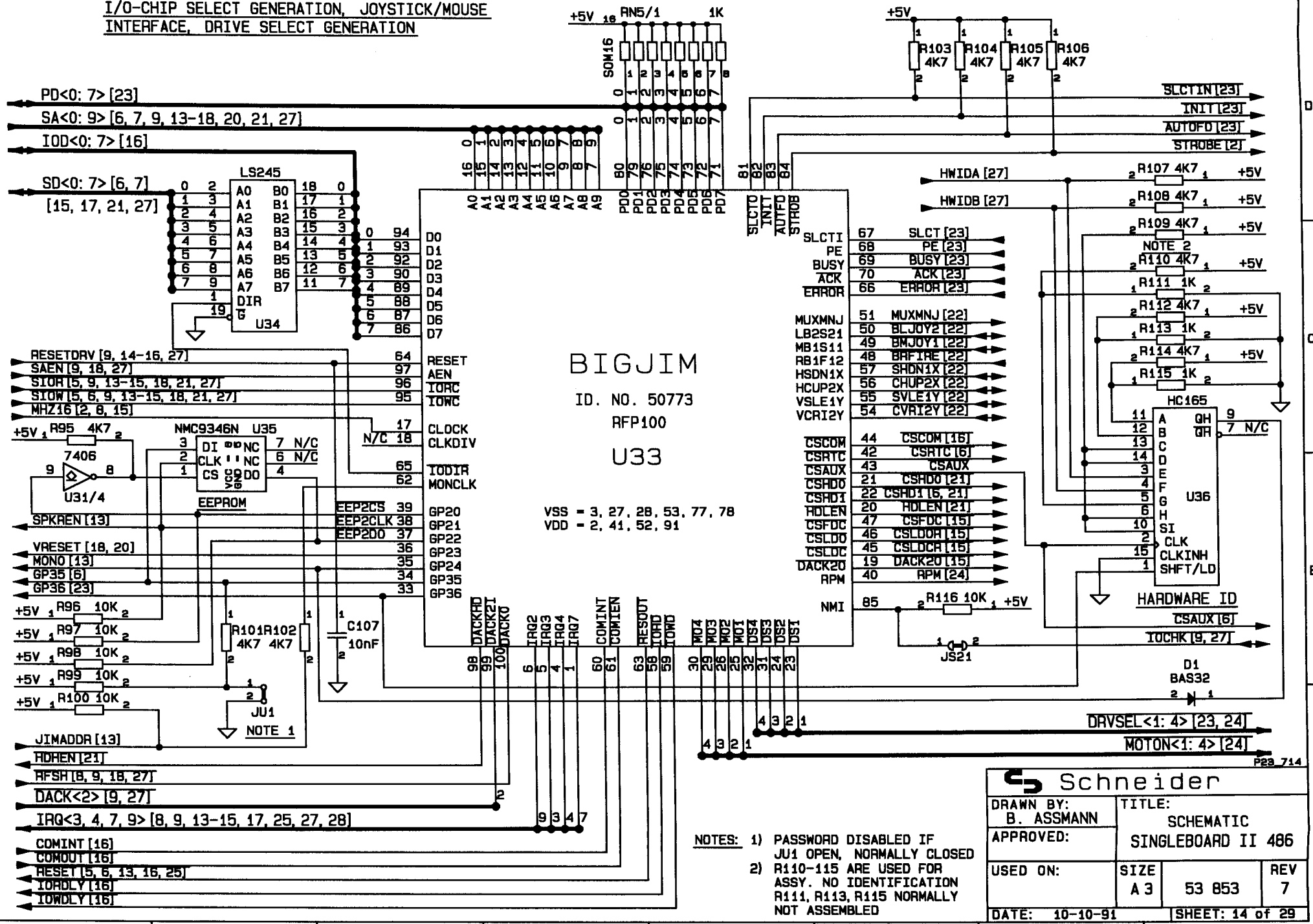
NOTES: 1) 256Kx36 (1MB) OR 1Mx36 (4MB) SIMM MODULES

4MB-16MB DRAM BANK #2 AND #3 P23_712

Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 12 of 29		


RC [8]
A20GATE [8]
MP [3-5]
DRAM70L [11]
DRAM70H [12]
IRQ<1> [8, 9, 13-15, 17, 25, 27, 28]
RN4/1
+5V
4K7 SOM16
RN4/2
4K7
SOM16
MONO [14]
XD<0: 7> [7-9]
8042 PLCC44
D0 P10
D1 P11
D2 P12
D3 P13
D4 P14
D5 P15
D6 P16
D7 P17
KEYBLOCK [23]
SIOW [5, 6, 9, 13-15, 18, 21, 27]
SIOR [5, 9, 13-15, 18, 21, 27]
CS8042 [9]
SA<2> [6, 7, 9, 13-18, 20, 21, 27]
RESET [5, 6, 14, 16, 25]
MHZ8 [2, 5]
MHZ8 [2]
WR P20
RD P21
CS P22
A0 P23
SS P24 OBFULL
EA P25 N/C
RST P26
P27
XTL1
XTL2 SYNC N/C
Vdd TST0
PROG TST1
NC NC N/C
NC NC N/C
U30
JS18
JS19
JS20
7406
U31/1
KEYBC [23]
JIMADDR [14]
U31/2
U31/3
KEYBD [23]
C103
10nF
LS1
NOTE 1
J1
EXTERNAL SPEAKER
SPEAKER
R94
47R
SPKR [9]
F02
U18/3
F126
U32/1
SPKREN [14]
NOTES: 1) J1 NORMALLY NOT ASSEMBLED
KEYBOARD INTERFACE, SPEAKER
P23_713
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 13 of 29

I/O-CHIP SELECT GENERATION, JOYSTICK/MOUSE INTERFACE, DRIVE SELECT GENERATION



NOTES:
1) PASSWORD DISABLED IF JU1 OPEN, NORMALLY CLOSED
2) R110-115 ARE USED FOR ASSY. NO IDENTIFICATION R111, R113, R115 NORMALLY NOT ASSEMBLED

Schneider		
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486	
APPROVED:		
USED ON:	SIZE A3 / 53 853	REV 7
DATE: 10-10-91	SHEET: 14 of 29	

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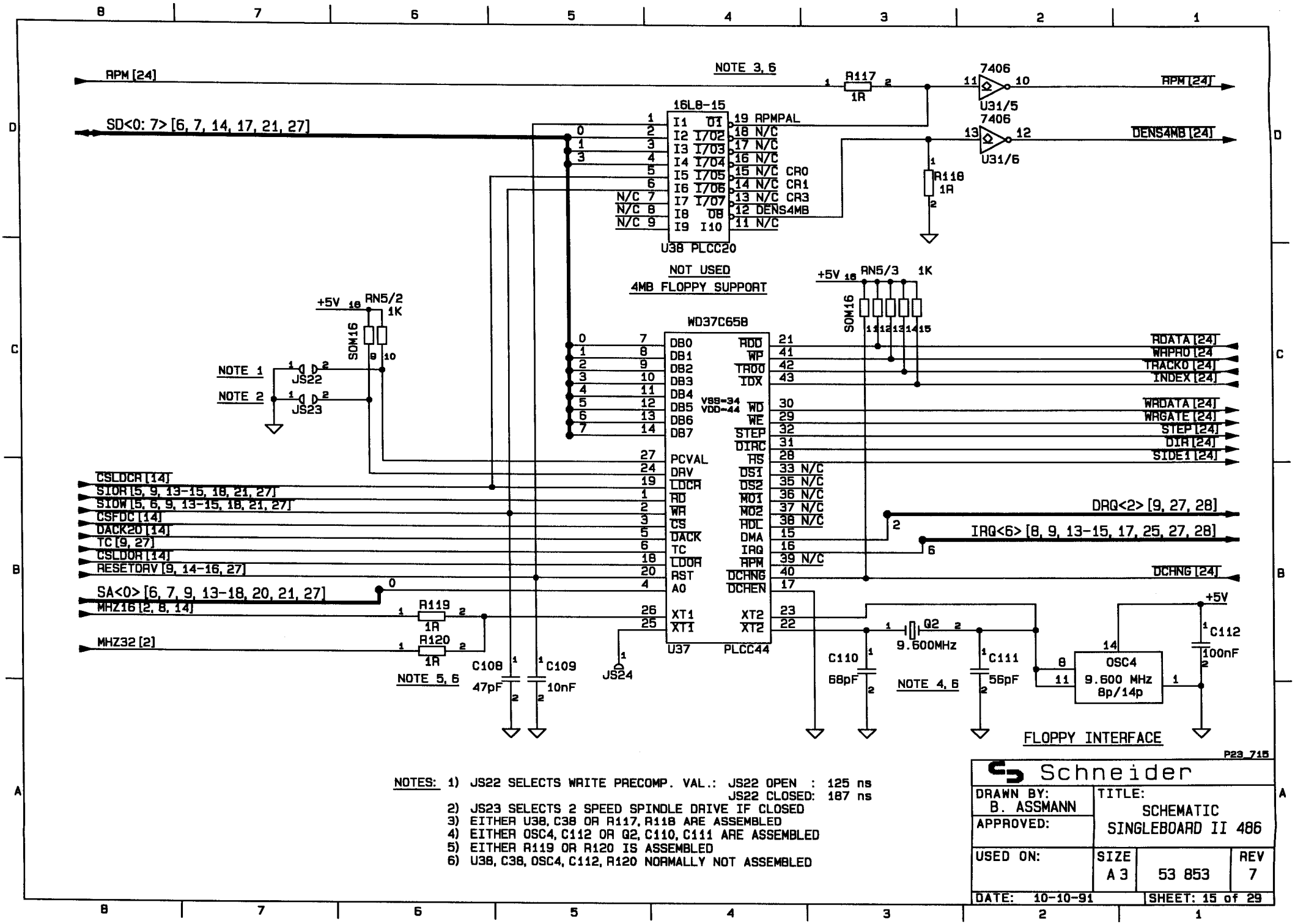
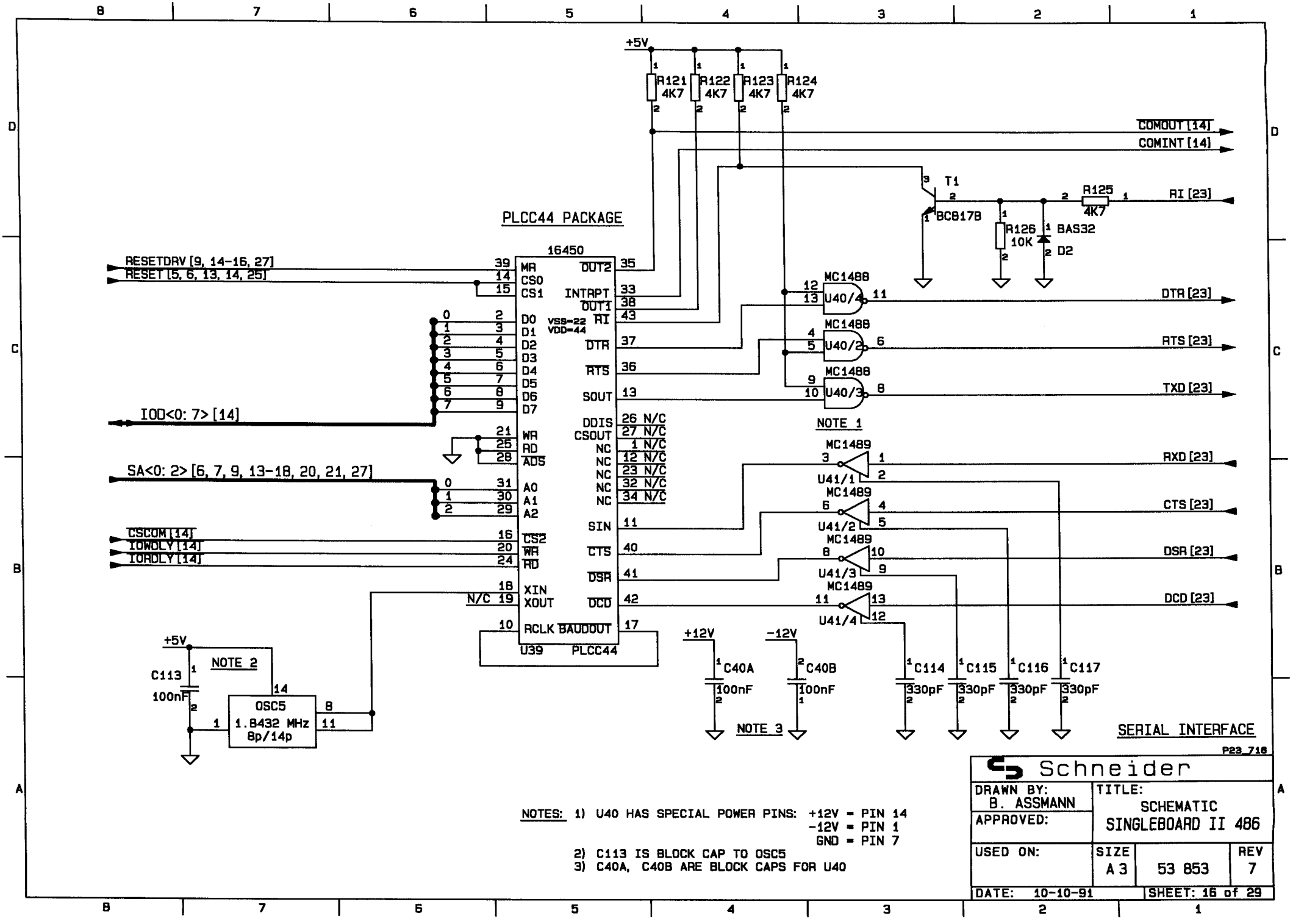


NOTES:
1) JS22 SELECTS WRITE PRECOMP. VAL.: JS22 OPEN : 125 ns
   JS22 CLOSED: 187 ns
2) JS23 SELECTS 2 SPEED SPINDLE DRIVE IF CLOSED
3) EITHER U38, C38 OR R117, R118 ARE ASSEMBLED
4) EITHER OSC4, C112 OR Q2, C110, C111 ARE ASSEMBLED
5) EITHER R119 OR R120 IS ASSEMBLED
6) U38, C38, OSC4, C112, R120 NORMALLY NOT ASSEMBLED

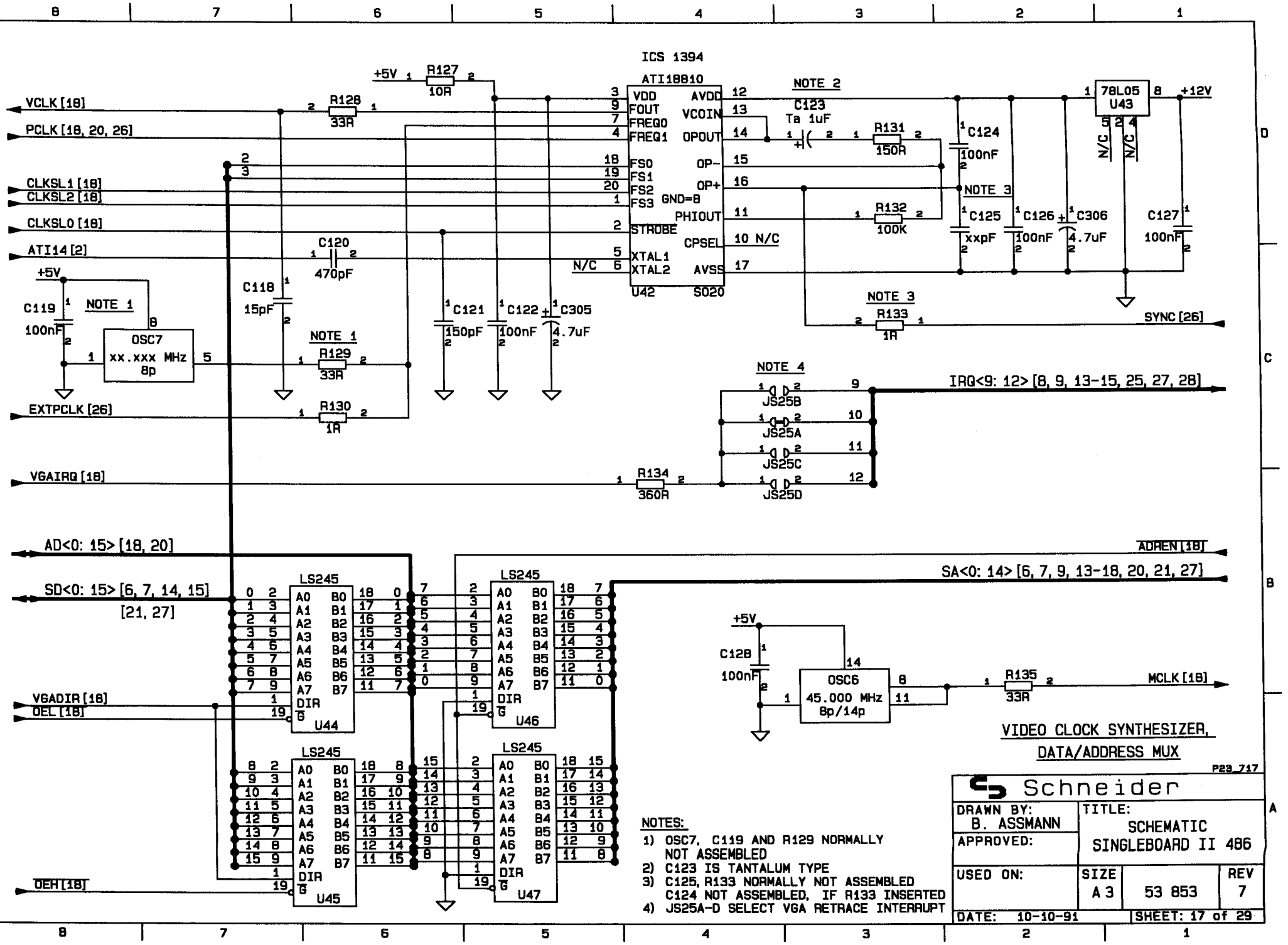
Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 15 of 29		

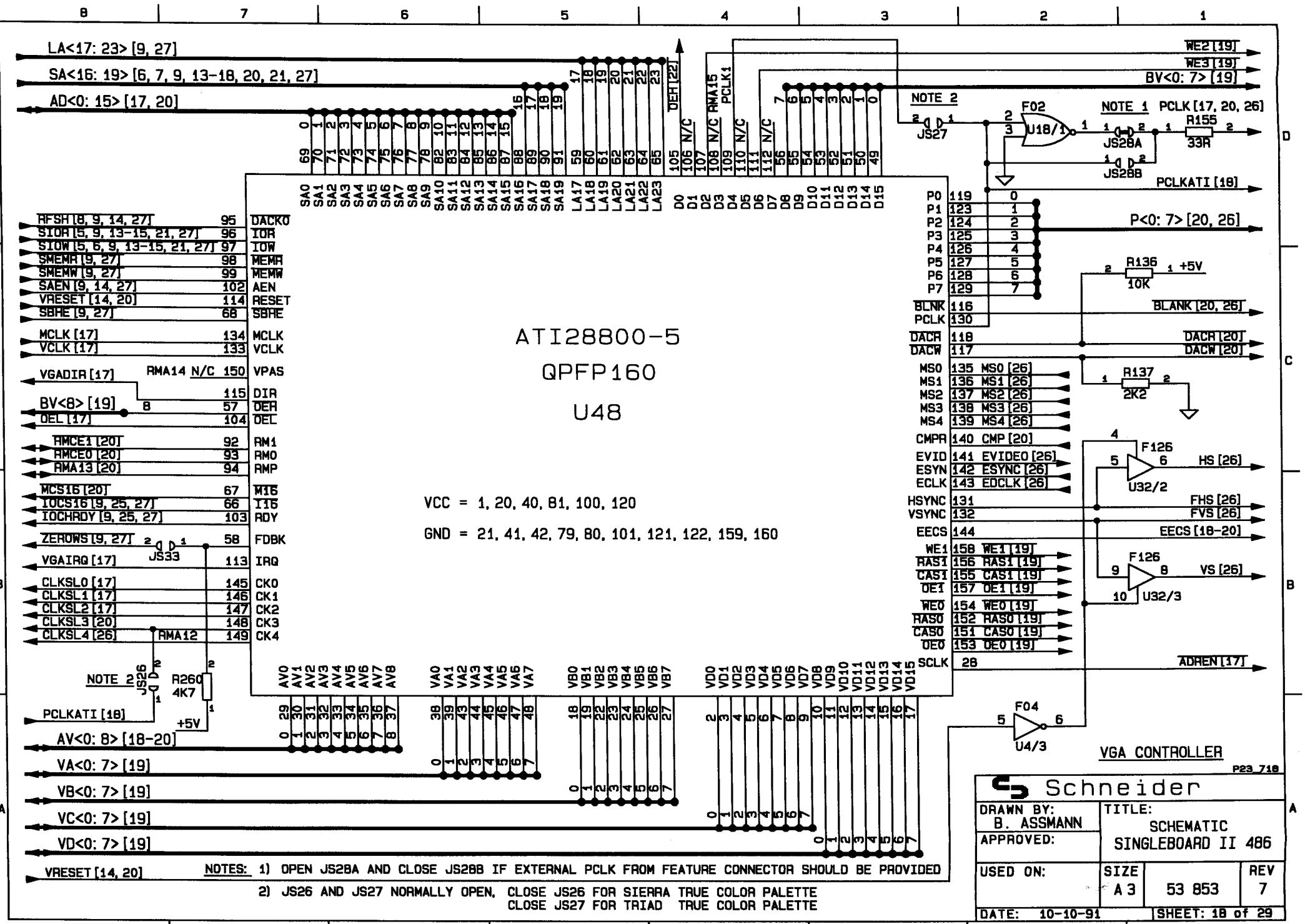


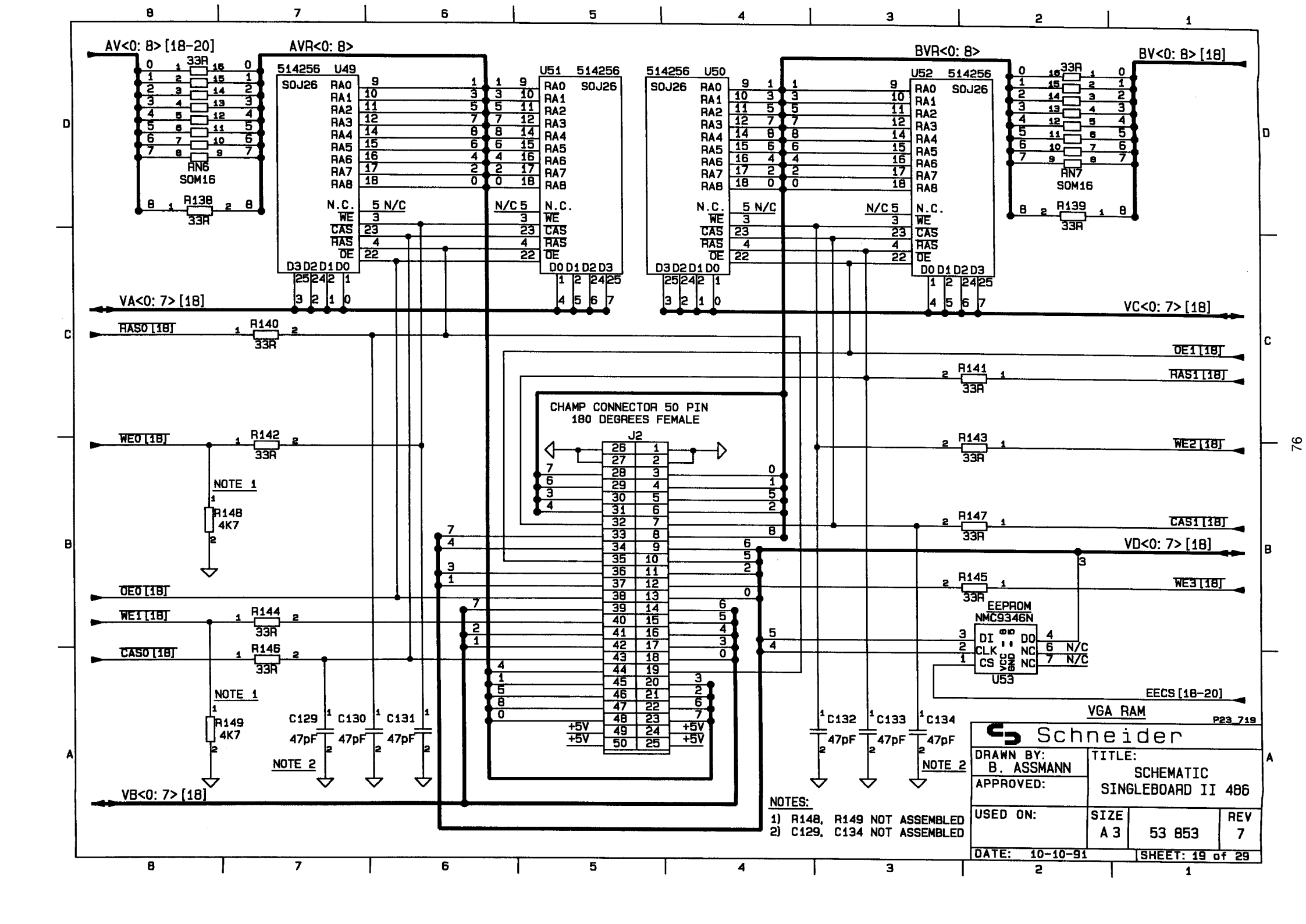
NOTES: 1) U40 HAS SPECIAL POWER PINS: +12V = PIN 14
-12V = PIN 1
GND = PIN 7

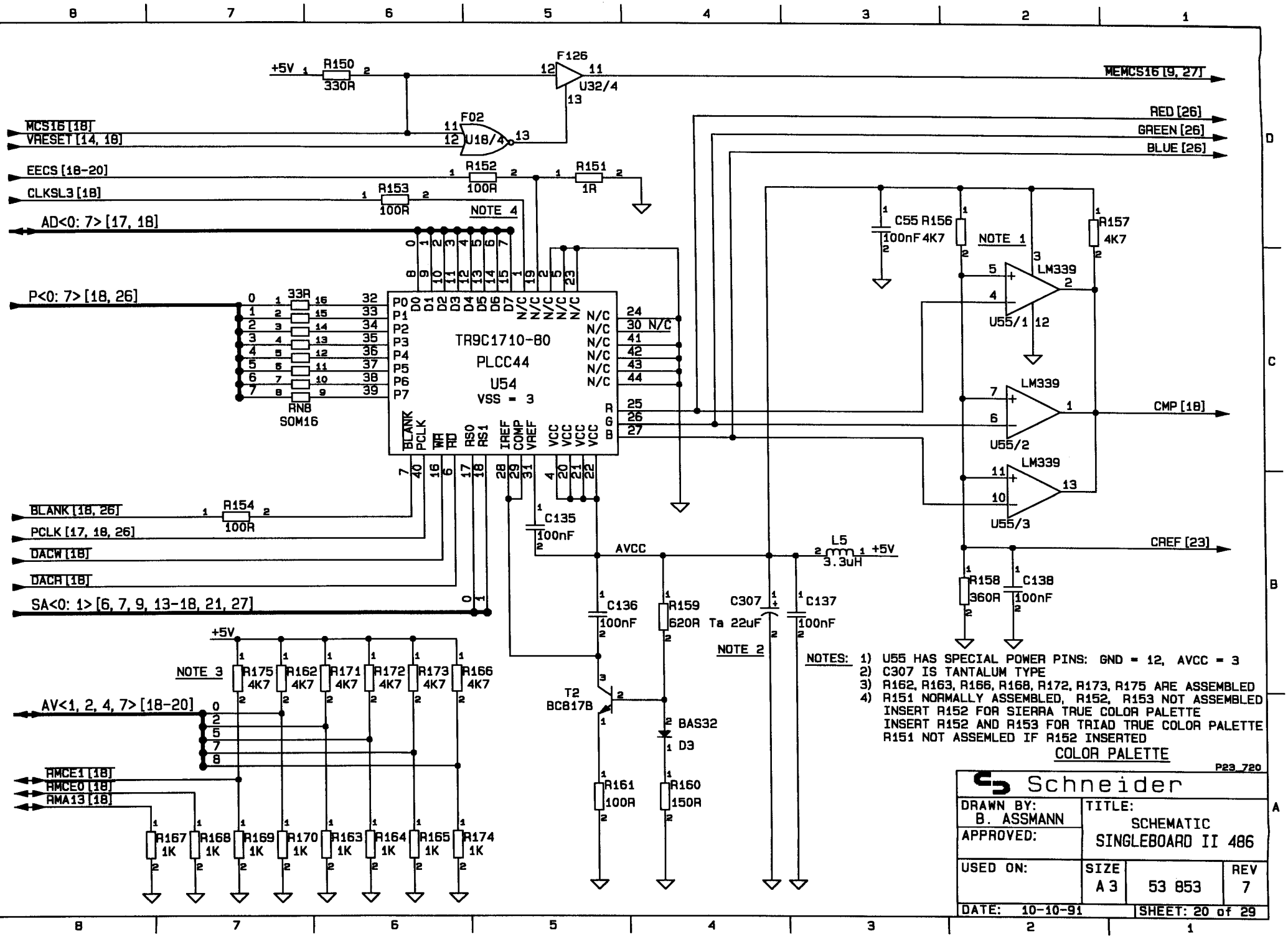
2) C113 IS BLOCK CAP TO OSC5
3) C40A, C40B ARE BLOCK CAPS FOR U40

Schneider			
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 16 of 29		


ICS 1394
ATI18810
U42
S020
VCLK [18]
PCLK [18, 20, 26]
CLKSL1 [18]
CLKSL2 [18]
CLKSL0 [18]
ATI14 [2]
EXTPCLK [26]
VGAIRQ [18]
SYNC [26]
IRQ<9: 12> [8, 9, 13-15, 25, 27, 28]
AD<0: 15> [18, 20]
SD<0: 15> [6, 7, 14, 15]
[21, 27]
SA<0: 14> [6, 7, 9, 13-18, 20, 21, 27]
ADREN [18]
VGADIR [18]
OEL [18]
OEH [18]
MCLK [18]
LS245
U44
U45
U46
U47
OSC7
xx.xxx MHz
8p
OSC6
45.000 MHz
8p/14p
78L05
U43
+5V
+12V
NOTE 1
NOTE 2
NOTE 3
NOTE 4
JS25A
JS25B
JS25C
JS25D
VIDEO CLOCK SYNTHESIZER,
DATA/ADDRESS MUX
NOTES:
1) OSC7, C119 AND R129 NORMALLY NOT ASSEMBLED
2) C123 IS TANTALUM TYPE
3) C125, R133 NORMALLY NOT ASSEMBLED C124 NOT ASSEMBLED, IF R133 INSERTED
4) JS25A-D SELECT VGA RETRACE INTERRUPT
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 17 of 29
P23_717


LA<17: 23> [9, 27]
SA<16: 19> [6, 7, 9, 13-18, 20, 21, 27]
AD<0: 15> [17, 20]
ATI28800-5
QPFP160
U48
VCC = 1, 20, 40, 81, 100, 120
GND = 21, 41, 42, 79, 80, 101, 121, 122, 159, 160
RFSH [8, 9, 14, 27]
SIOR [5, 9, 13-15, 21, 27]
SIOW [5, 6, 9, 13-15, 21, 27]
SMEMR [9, 27]
SMEMW [9, 27]
SAEN [9, 14, 27]
VRESET [14, 20]
SBHE [9, 27]
MCLK [17]
VCLK [17]
VGADIR [17]
BV<8> [19]
OEL [17]
RMCE1 [20]
RMCE0 [20]
RMA13 [20]
MCS16 [20]
IOCS16 [9, 25, 27]
IOCHRDY [9, 25, 27]
ZEROWS [9, 27]
VGAIRQ [17]
CLKSL0 [17]
CLKSL1 [17]
CLKSL2 [17]
CLKSL3 [20]
CLKSL4 [26]
RMA12
JS33
JS26
R260 4K7
+5V
PCLKATI [18]
AV<0: 8> [18-20]
VA<0: 7> [19]
VB<0: 7> [19]
VC<0: 7> [19]
VD<0: 7> [19]
VRESET [14, 20]
WE2 [19]
WE3 [19]
BV<0: 7> [19]
NOTE 2
JS27
F02
U18/1
NOTE 1
PCLK [17, 20, 26]
JS28A
JS28B
R155 33R
PCLKATI [18]
P<0: 7> [20, 26]
R136 10K
+5V
BLANK [20, 26]
DACR [20]
DACW [20]
R137 2K2
F126
U32/2
HS [26]
FHS [26]
FVS [26]
EECS [18-20]
VS [26]
U32/3
ADREN [17]
F04
U4/3
VGA CONTROLLER
P23_718
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 18 of 29
NOTES: 1) OPEN JS28A AND CLOSE JS28B IF EXTERNAL PCLK FROM FEATURE CONNECTOR SHOULD BE PROVIDED
2) JS26 AND JS27 NORMALLY OPEN, CLOSE JS26 FOR SIERRA TRUE COLOR PALETTE
CLOSE JS27 FOR TRIAD TRUE COLOR PALETTE


AV<0: 8> [18-20]
AVR<0: 8>
BVR<0: 8>
BV<0: 8> [18]
RN6
SOM16
RN7
SOM16
R138
33R
R139
33R
U49
U50
U51
U52
514256
SOJ26
RA0
RA1
RA2
RA3
RA4
RA5
RA6
RA7
RA8
N.C.
WE
CAS
RAS
OE
D0 D1 D2 D3
VA<0: 7> [18]
VC<0: 7> [18]
VD<0: 7> [18]
VB<0: 7> [18]
RAS0 [18]
R140
33R
OE1 [18]
R141
33R
RAS1 [18]
CHAMP CONNECTOR 50 PIN
180 DEGREES FEMALE
J2
WE0 [18]
R142
33R
R143
33R
WE2 [18]
NOTE 1
R148
4K7
R147
33R
CAS1 [18]
OE0 [18]
R145
33R
WE3 [18]
WE1 [18]
R144
33R
EEPROM
NMC9346N
U53
DI
CLK
CS
DO
NC
CAS0 [18]
R146
33R
EECS [18-20]
NOTE 1
R149
4K7
C129
C130
C131
C132
C133
C134
47pF
NOTE 2
NOTE 2
+5V
VGA RAM
P23_719
Schneider
DRAWN BY:
B. ASSMANN
APPROVED:
TITLE:
SCHEMATIC
SINGLEBOARD II 486
USED ON:
SIZE
A 3
53 853
REV
7
DATE: 10-10-91
SHEET: 19 of 29
NOTES:
1) R148, R149 NOT ASSEMBLED
2) C129, C134 NOT ASSEMBLED

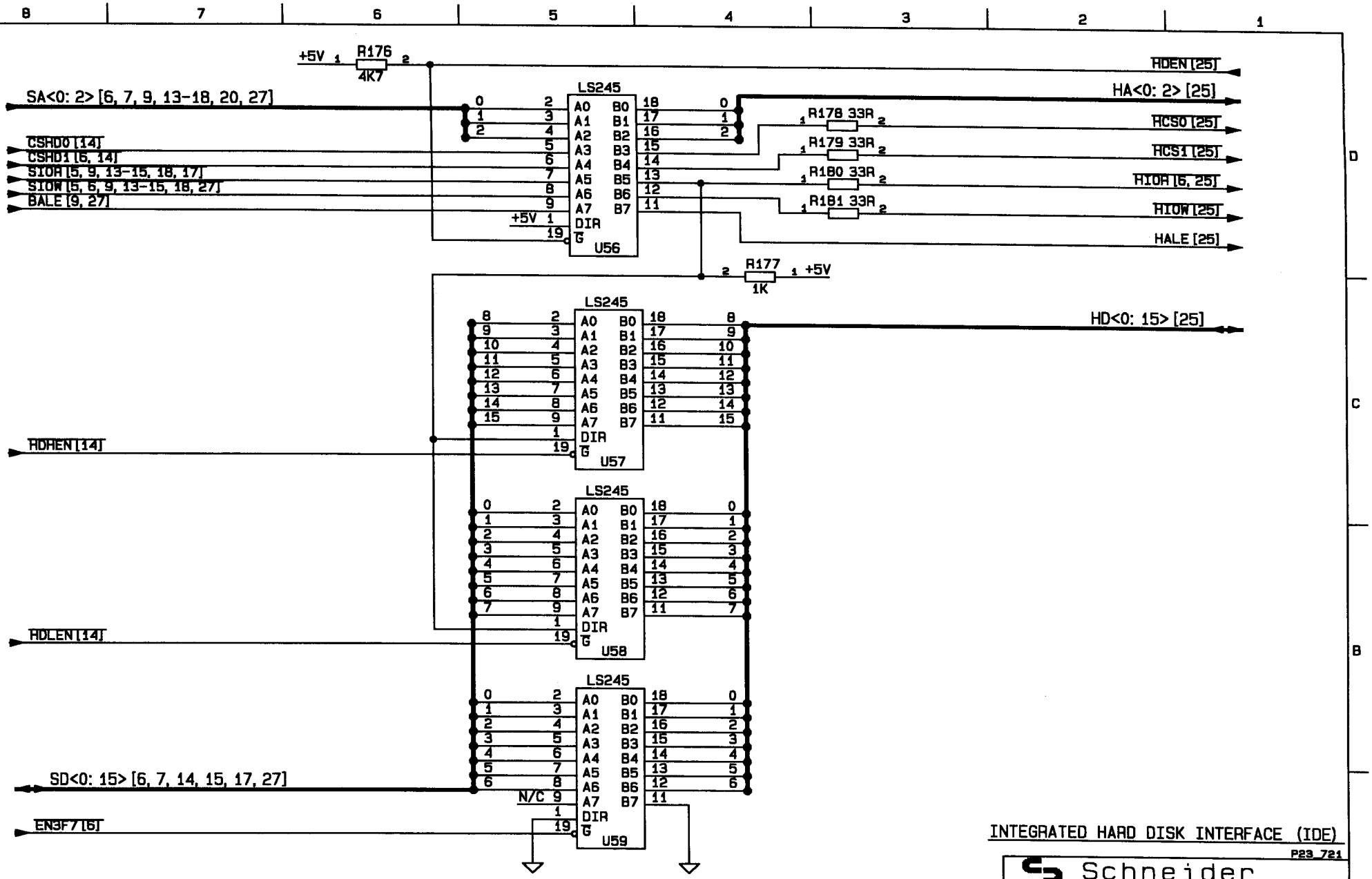


NOTES:
1) U55 HAS SPECIAL POWER PINS: GND = 12, AVCC = 3
2) C307 IS TANTALUM TYPE
3) R162, R163, R166, R168, R172, R173, R175 ARE ASSEMBLED
4) R151 NORMALLY ASSEMBLED, R152, R153 NOT ASSEMBLED
   INSERT R152 FOR SIERRA TRUE COLOR PALETTE
   INSERT R152 AND R153 FOR TRIAD TRUE COLOR PALETTE
   R151 NOT ASSEMLED IF R152 INSERTED

COLOR PALETTE

P23_720

Schneider		
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486	
APPROVED:		
USED ON:	SIZE A3 / 53 853	REV 7
DATE: 10-10-91	SHEET: 20 of 29	

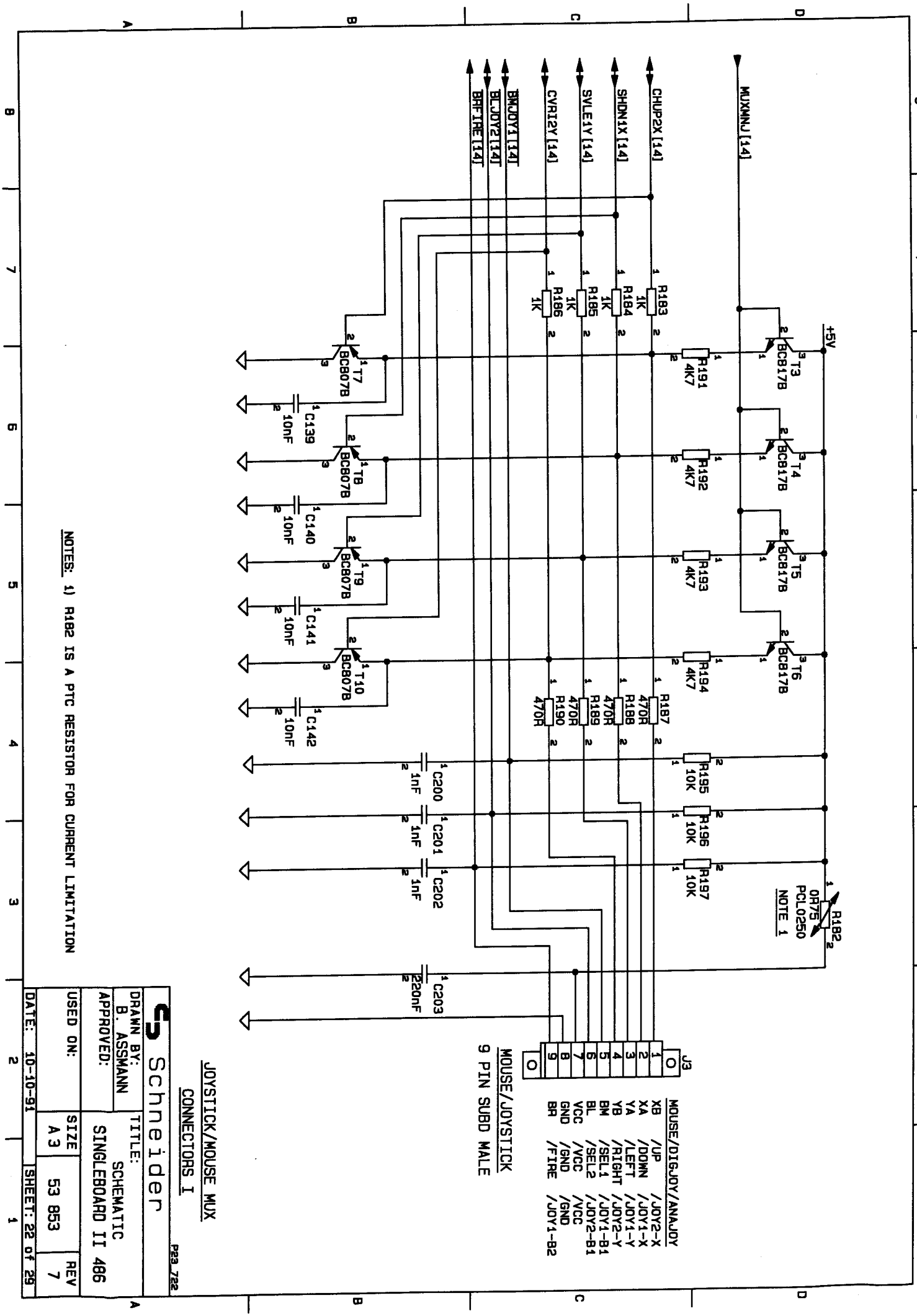


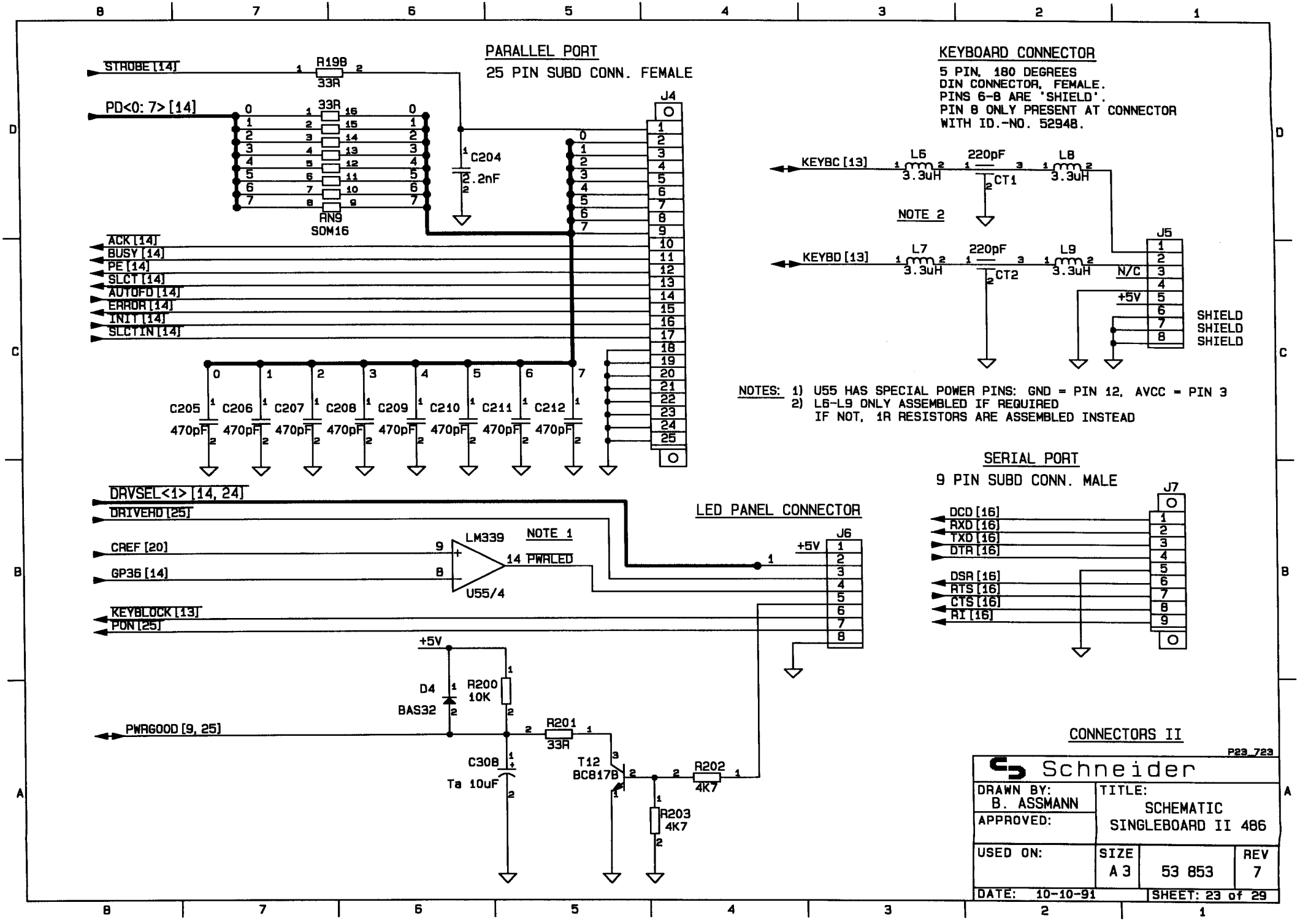
INTEGRATED HARD DISK INTERFACE (IDE)

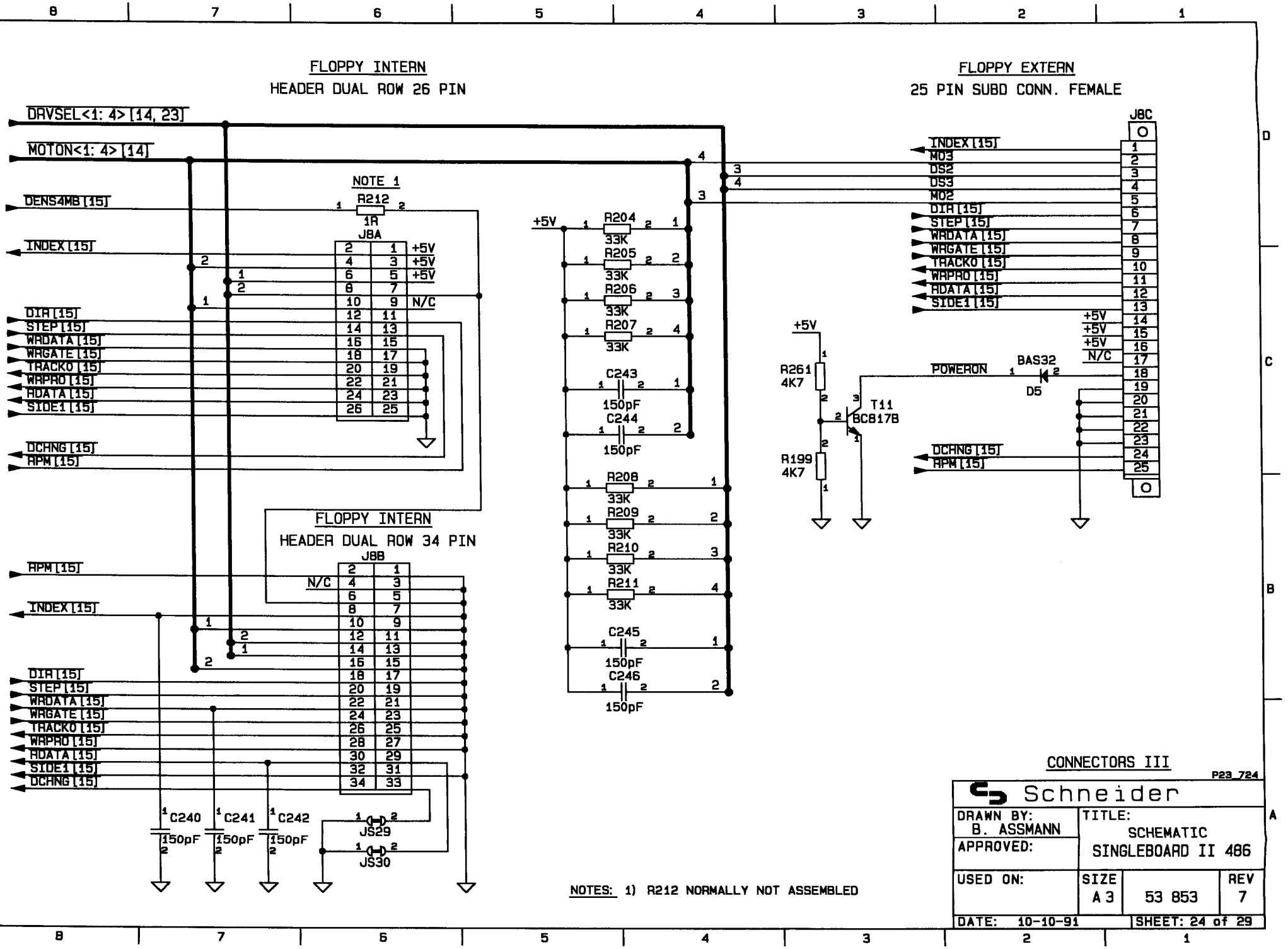
P23 721

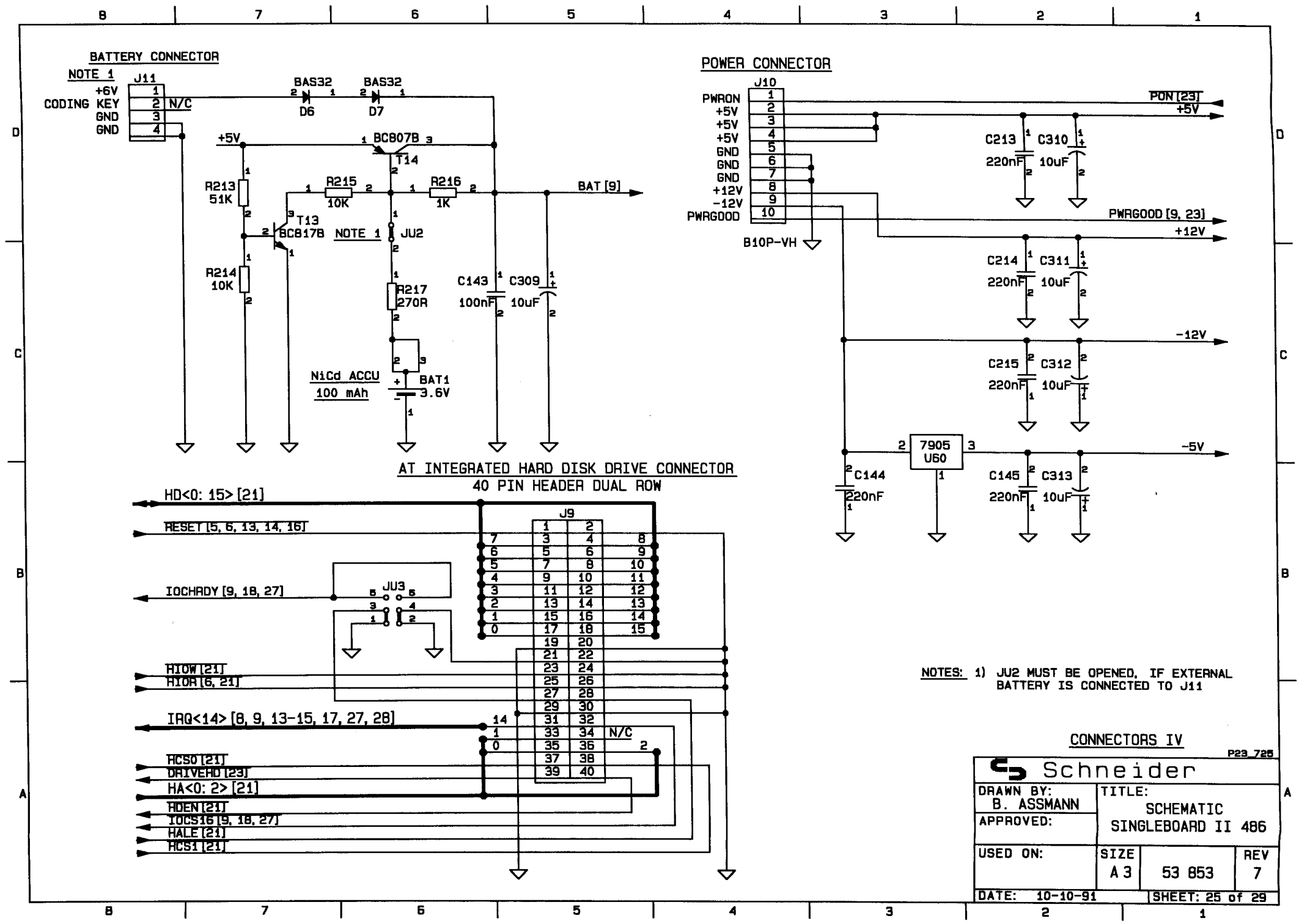
Schneider

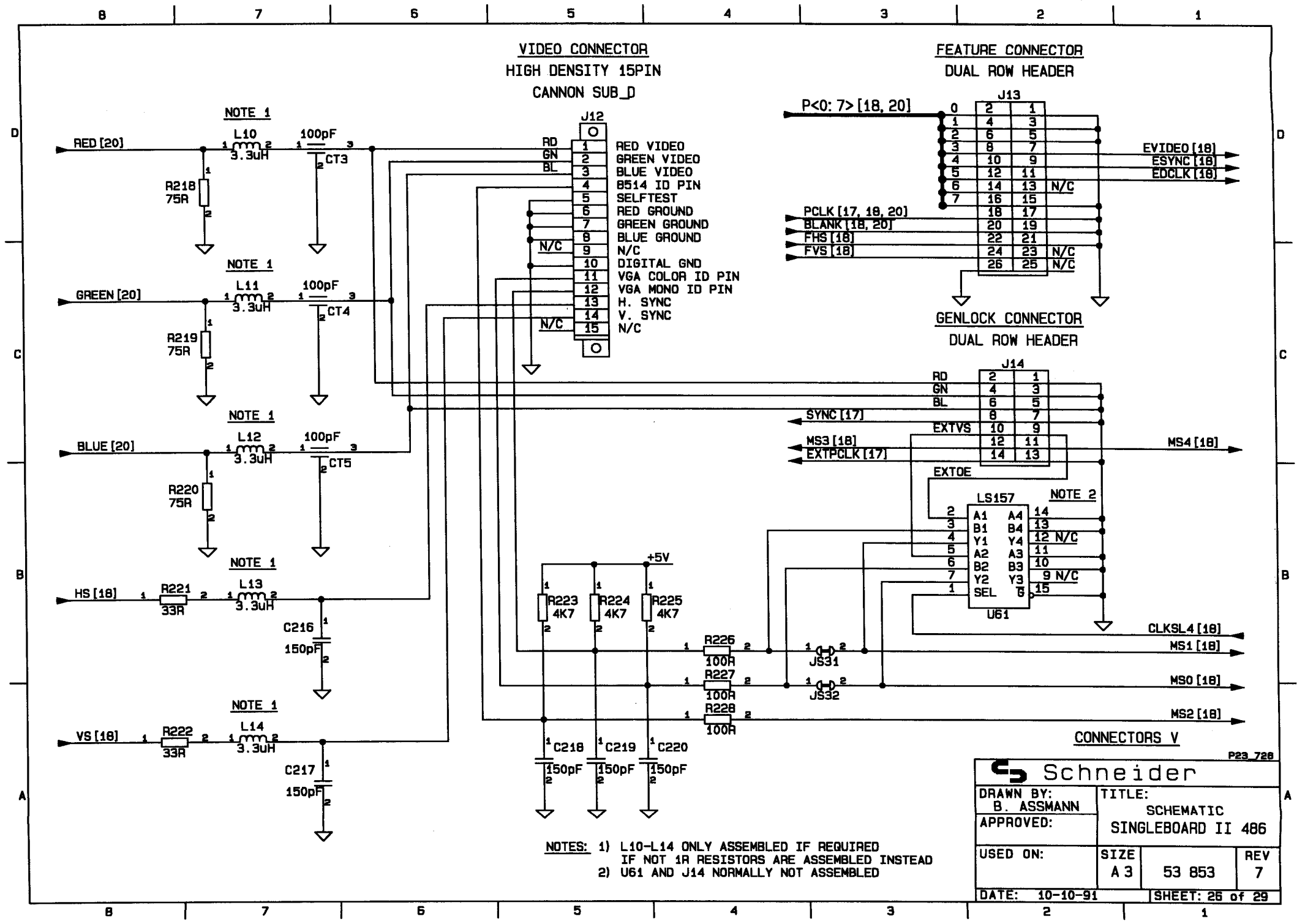
DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 21 of 29		

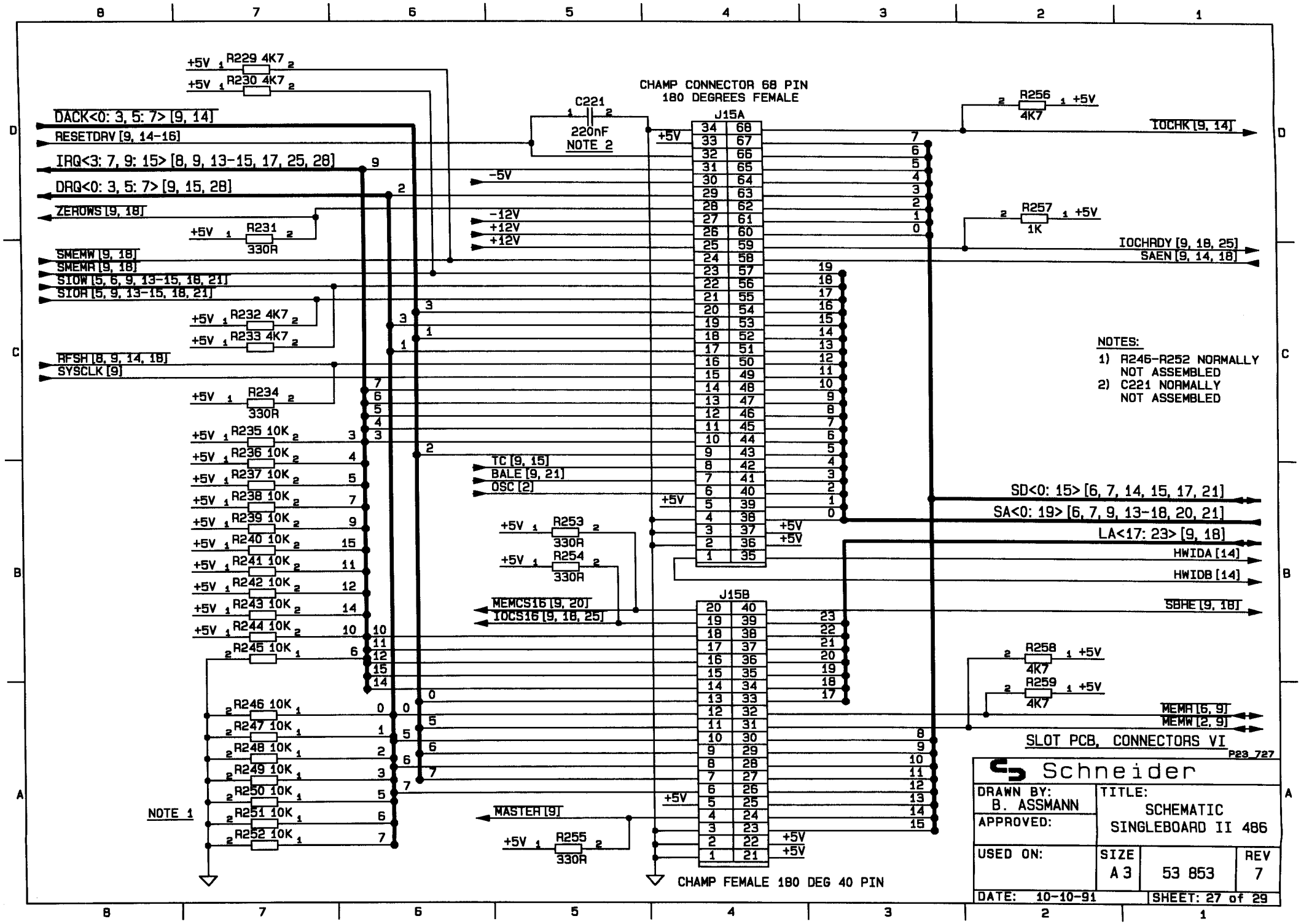

MUXMNJ [14]
CHUP2X [14]
SHDN1X [14]
SVLE1Y [14]
CVRI2Y [14]
BMJOY1 [14]
BLJOY2 [14]
BRFIRE [14]
+5V
T3 BC817B
T4 BC817B
T5 BC817B
T6 BC817B
T7 BC807B
T8 BC807B
T9 BC807B
T10 BC807B
R183 1K
R184 1K
R185 1K
R186 1K
R191 4K7
R192 4K7
R193 4K7
R194 4K7
R187 470R
R188 470R
R189 470R
R190 470R
R195 10K
R196 10K
R197 10K
R182 0R75 PCL0250 NOTE 1
C139 10nF
C140 10nF
C141 10nF
C142 10nF
C200 1nF
C201 1nF
C202 1nF
C203 220nF
J3
MOUSE/JOYSTICK
9 PIN SUBD MALE
MOUSE/DIGJOY/ANAJOY
XB /UP /JOY2-X
XA /DOWN /JOY1-X
YA /LEFT /JOY1-Y
YB /RIGHT /JOY2-Y
BM /SEL1 /JOY1-B1
BL /SEL2 /JOY2-B1
VCC /VCC /VCC
GND /GND /GND
BR /FIRE /JOY1-B2
JOYSTICK/MOUSE MUX
CONNECTORS I
NOTES: 1) R182 IS A PTC RESISTOR FOR CURRENT LIMITATION
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 22 of 29
P23_722

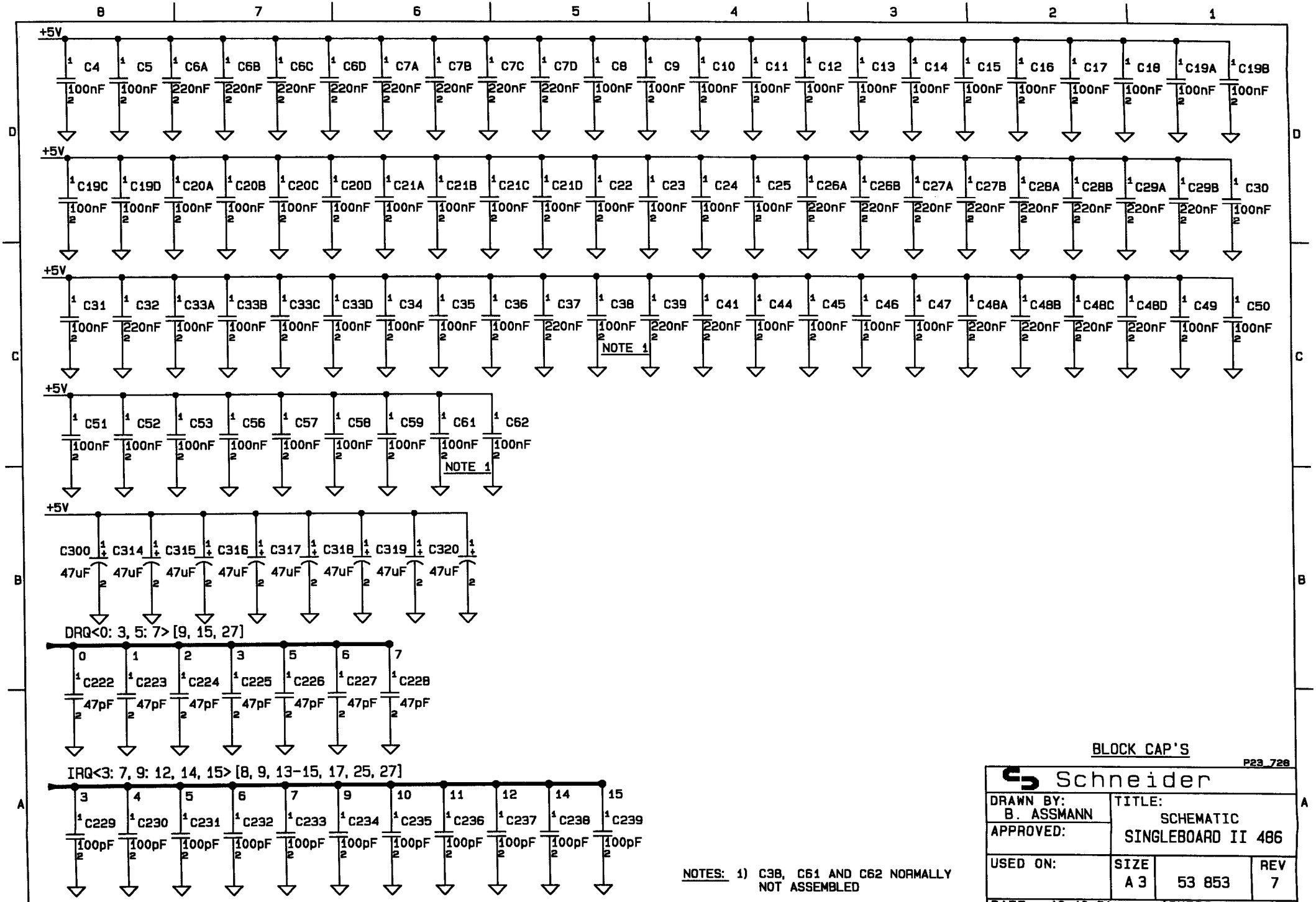

PARALLEL PORT
25 PIN SUBD CONN. FEMALE
STROBE [14]
R198
33R
PD<0:7> [14]
33R
AN9
SOM16
C204
2.2nF
J4
ACK [14]
BUSY [14]
PE [14]
SLCT [14]
AUTOFD [14]
ERROR [14]
INIT [14]
SLCTIN [14]
C205 470pF
C206 470pF
C207 470pF
C208 470pF
C209 470pF
C210 470pF
C211 470pF
C212 470pF
KEYBOARD CONNECTOR
5 PIN, 180 DEGREES
DIN CONNECTOR, FEMALE.
PINS 6-8 ARE 'SHIELD'.
PIN 8 ONLY PRESENT AT CONNECTOR
WITH ID.-NO. 52948.
KEYBC [13]
L6 3.3uH
220pF
CT1
L8 3.3uH
NOTE 2
KEYBD [13]
L7 3.3uH
220pF
CT2
L9 3.3uH
J5
N/C
+5V
SHIELD
SHIELD
SHIELD
NOTES: 1) U55 HAS SPECIAL POWER PINS: GND = PIN 12, AVCC = PIN 3
2) L6-L9 ONLY ASSEMBLED IF REQUIRED
IF NOT, 1R RESISTORS ARE ASSEMBLED INSTEAD
SERIAL PORT
9 PIN SUBD CONN. MALE
J7
DCD [16]
RXD [16]
TXD [16]
DTR [16]
DSR [16]
RTS [16]
CTS [16]
RI [16]
DRVSEL<1> [14, 24]
DRIVEHD [25]
CREF [20]
GP36 [14]
LM339
NOTE 1
PWRLED
U55/4
LED PANEL CONNECTOR
J6
+5V
KEYBLOCK [13]
PON [25]
+5V
D4
BAS32
R200
10K
PWRGOOD [9, 25]
R201
33R
C308
Ta 10uF
T12
BC817B
R202
4K7
R203
4K7
CONNECTORS II
P23_723
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 23 of 29


FLOPPY INTERN
HEADER DUAL ROW 26 PIN
FLOPPY EXTERN
25 PIN SUBD CONN. FEMALE
DRVSEL<1:4>[14,23]
MOTON<1:4>[14]
DENS4MB[15]
INDEX[15]
DIR[15]
STEP[15]
WRDATA[15]
WRGATE[15]
TRACK0[15]
WRPRO[15]
RDATA[15]
SIDE1[15]
DCHNG[15]
RPM[15]
NOTE 1
R212
1R
J8A
+5V
N/C
R204
R205
R206
R207
33K
C243
C244
150pF
R208
R209
R210
R211
C245
C246
J8C
MO3
DS2
DS3
MO2
POWERON
BAS32
D5
T11
BC817B
R261
4K7
R199
FLOPPY INTERN
HEADER DUAL ROW 34 PIN
J8B
C240
C241
C242
JS29
JS30
NOTES: 1) R212 NORMALLY NOT ASSEMBLED
CONNECTORS III
P23_724
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
TITLE: SCHEMATIC SINGLEBOARD II 486
USED ON:
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 24 of 29


BATTERY CONNECTOR
NOTE 1
J11
+6V
CODING KEY
GND
GND
N/C
BAS32
D6
D7
+5V
BC807B
T14
R213
51K
R215
10K
R216
1K
BAT [9]
T13
BC817B
NOTE 1
JU2
R214
10K
R217
270R
C143
100nF
C309
10uF
NiCd ACCU
100 mAh
BAT1
3.6V
POWER CONNECTOR
J10
PWRON
+5V
+5V
+5V
GND
GND
GND
+12V
-12V
PWRGOOD
B10P-VH
PON [23]
+5V
C213
220nF
C310
10uF
PWRGOOD [9, 23]
+12V
C214
220nF
C311
10uF
-12V
C215
220nF
C312
10uF
7905
U60
C144
220nF
-5V
C145
220nF
C313
10uF
AT INTEGRATED HARD DISK DRIVE CONNECTOR
40 PIN HEADER DUAL ROW
J9
HD<0: 15> [21]
RESET [5, 6, 13, 14, 16]
IOCHRDY [9, 18, 27]
JU3
HIOW [21]
HIOR [6, 21]
IRQ<14> [8, 9, 13-15, 17, 27, 28]
N/C
HCS0 [21]
DRIVEHD [23]
HA<0: 2> [21]
HDEN [21]
IOCS16 [9, 18, 27]
HALE [21]
HCS1 [21]
NOTES: 1) JU2 MUST BE OPENED, IF EXTERNAL BATTERY IS CONNECTED TO J11
CONNECTORS IV
P23_725
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 25 of 29


VIDEO CONNECTOR
HIGH DENSITY 15PIN
CANNON SUB_D
FEATURE CONNECTOR
DUAL ROW HEADER
GENLOCK CONNECTOR
DUAL ROW HEADER
NOTE 1
RED [20]
GREEN [20]
BLUE [20]
HS [18]
VS [18]
L10
L11
L12
L13
L14
3.3uH
100pF
CT3
CT4
CT5
C216
C217
150pF
R218
R219
R220
R221
R222
75R
33R
J12
RD
GN
BL
N/C
RED VIDEO
GREEN VIDEO
BLUE VIDEO
8514 ID PIN
SELFTEST
RED GROUND
GREEN GROUND
BLUE GROUND
N/C
DIGITAL GND
VGA COLOR ID PIN
VGA MONO ID PIN
H. SYNC
V. SYNC
N/C
J13
P<0: 7> [18, 20]
EVIDEO [18]
ESYNC [18]
EDCLK [18]
PCLK [17, 18, 20]
BLANK [18, 20]
FHS [18]
FVS [18]
J14
SYNC [17]
MS3 [18]
EXTPCLK [17]
EXTVS
EXTOE
MS4 [18]
LS157
NOTE 2
U61
+5V
R223
R224
R225
4K7
R226
R227
R228
100R
JS31
JS32
C218
C219
C220
CLKSL4 [18]
MS1 [18]
MS0 [18]
MS2 [18]
CONNECTORS V
NOTES: 1) L10-L14 ONLY ASSEMBLED IF REQUIRED
IF NOT 1R RESISTORS ARE ASSEMBLED INSTEAD
2) U61 AND J14 NORMALLY NOT ASSEMBLED
P23_726
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A 3
53 853
REV 7
DATE: 10-10-91
SHEET: 26 of 29


CHAMP CONNECTOR 68 PIN
180 DEGREES FEMALE
J15A
J15B
C221
220nF
NOTE 2
R229 4K7
R230 4K7
R231
330R
R232 4K7
R233 4K7
R234
330R
R235 10K
R236 10K
R237 10K
R238 10K
R239 10K
R240 10K
R241 10K
R242 10K
R243 10K
R244 10K
R245 10K
R246 10K
R247 10K
R248 10K
R249 10K
R250 10K
R251 10K
R252 10K
R253
330R
R254
330R
R255
330R
R256
4K7
R257
1K
R258
4K7
R259
4K7
+5V
-5V
-12V
+12V
+12V
DACK<0: 3, 5: 7> [9, 14]
RESETDRV [9, 14-16]
IRQ<3: 7, 9: 15> [8, 9, 13-15, 17, 25, 28]
DRQ<0: 3, 5: 7> [9, 15, 28]
ZEROWS [9, 18]
SMEMW [9, 18]
SMEMR [9, 18]
SIOW [5, 6, 9, 13-15, 18, 21]
SIOR [5, 9, 13-15, 18, 21]
RFSH [8, 9, 14, 18]
SYSCLK [9]
TC [9, 15]
BALE [9, 21]
OSC [2]
MEMCS16 [9, 20]
IOCS16 [9, 18, 25]
MASTER [9]
IOCHK [9, 14]
IOCHRDY [9, 18, 25]
SAEN [9, 14, 18]
SD<0: 15> [6, 7, 14, 15, 17, 21]
SA<0: 19> [6, 7, 9, 13-18, 20, 21]
LA<17: 23> [9, 18]
HWIDA [14]
HWIDB [14]
SBHE [9, 18]
MEMR [6, 9]
MEMW [2, 9]
NOTE 1
CHAMP FEMALE 180 DEG 40 PIN
NOTES:
1) R246-R252 NORMALLY NOT ASSEMBLED
2) C221 NORMALLY NOT ASSEMBLED
SLOT PCB, CONNECTORS VI
P23_727
Schneider
DRAWN BY: B. ASSMANN
APPROVED:
USED ON:
TITLE: SCHEMATIC SINGLEBOARD II 486
SIZE A3
53 853
REV 7
DATE: 10-10-91
SHEET: 27 of 29



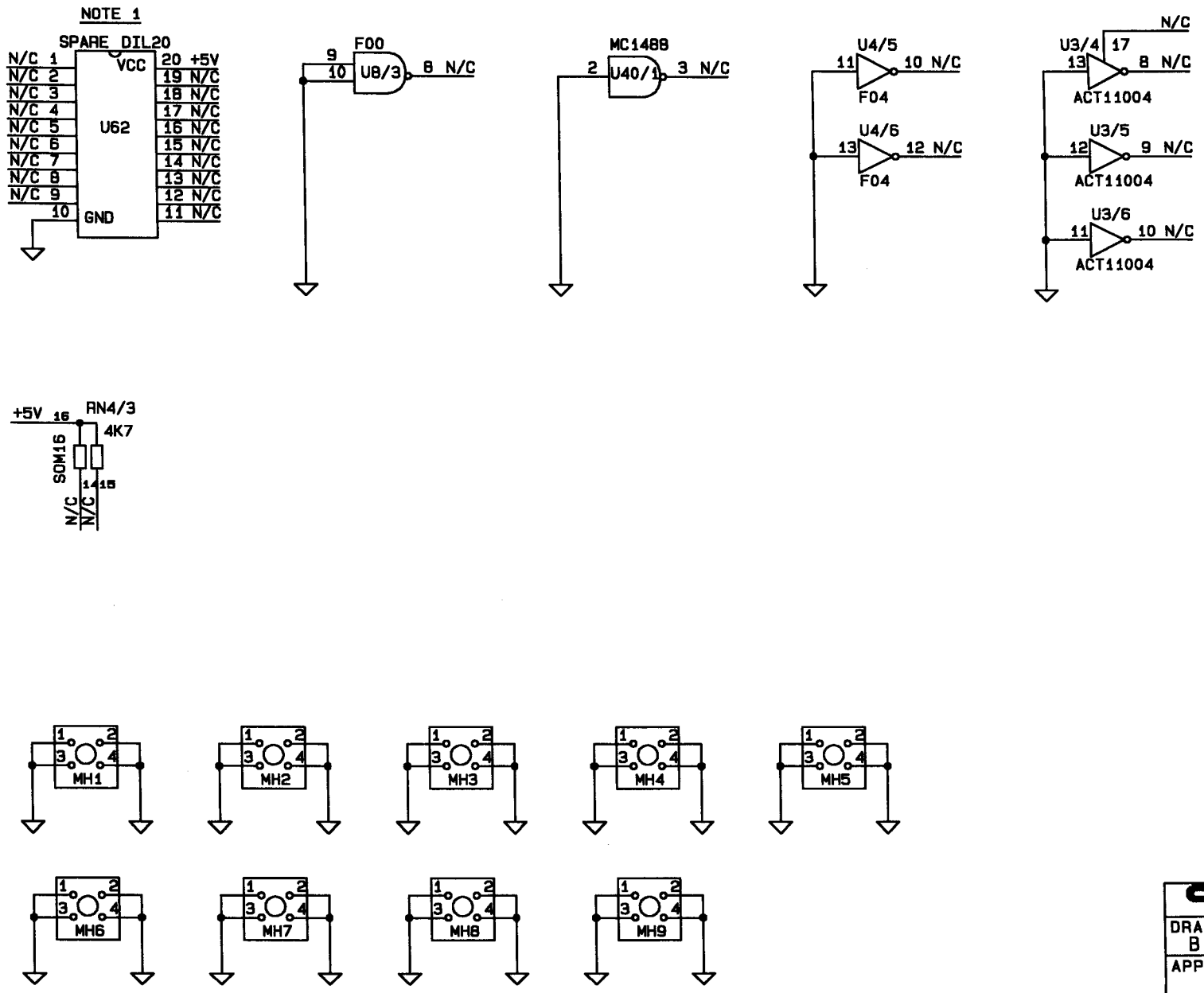
NOTES: 1) C38, C61 AND C62 NORMALLY NOT ASSEMBLED

BLOCK CAP'S

P23_728

Schneider

DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 28 of 29		



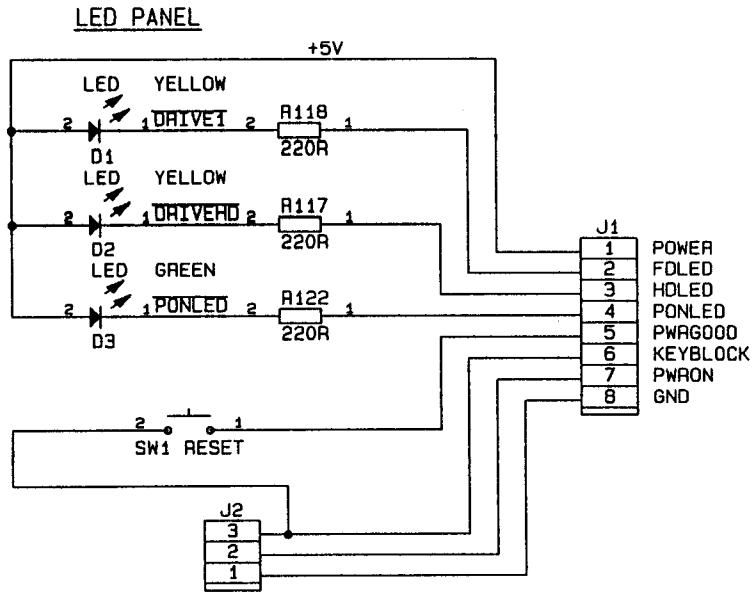
NOTES: 1) SPARE GATE POSITION U62

SPARE GATES

P23_729

Schneider

DRAWN BY: B. ASSMANN	TITLE: SCHEMATIC SINGLEBOARD II 486		
APPROVED:			
USED ON:	SIZE A 3	53 853	REV 7
DATE: 10-10-91	SHEET: 29 of 29		



LEDP_22

Schneider			
DRAWN BY: K. WINZEK	TITLE: SCHEMATIC LED PANEL DESKTOP		
APPROVED:			
USED ON: DESKTOP SX/AT	SIZE A 3	52615 53194	REV 2
DATE: 09-06-90	SHEET: 2 of 2		

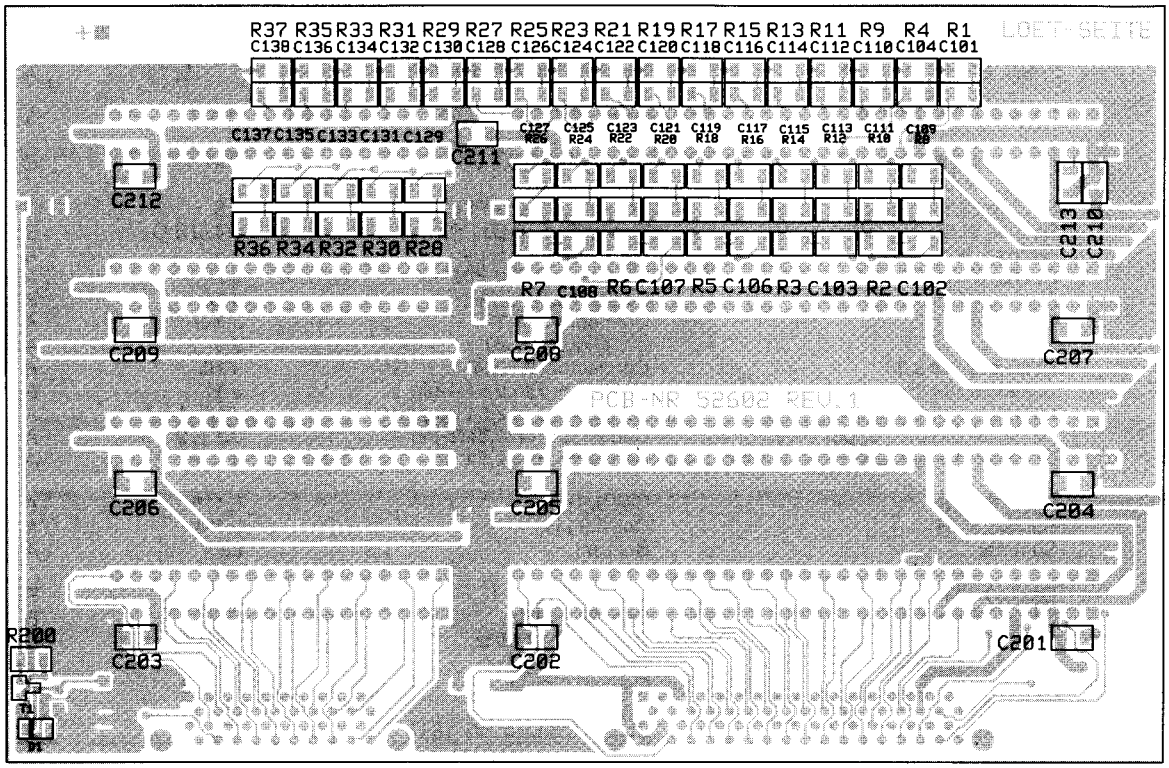
Ersatzteilliste für CPU Platine
Parts list for CPU P.C.B.

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
53 747 00	IC HAL 16 R 4-7 C PLCC20	IC HAL 16 R 4-7 C PLCC20	U 1	C 8
53 752 00	IC 74 ACT 11004-DW SO20	IC 74 ACT 11004-DW SO20	U 2, 3	A 7
53 883 00	IC 74 F 04 SO14	IC 74 F 04 SO14	U 4	A 7
52 751 00	IC 74 ACT 74 SO14	IC 74 ACT 74 SO14	U 5	A 7
53 886 00	IC-Fassung PGA 17 X 17	IC Holder PGA 17 X 17	U 6	E 3
53 885 00	IC CPU 80486 SX 20 MHz	IC CPU 80486 SX 20 MHz	U 7	J 2
53 765 00	IC-Fassung PGA 17 X 17	IC Holder PGA 17 X 17	U 7	C 4
51 588 00	IC 74 F 00 SO14	IC 74 F 00 SO14	U 8, 22-25	A 7
53 745 00	IC HAL 16 L8-7C PLCC20	IC HAL 16 L8-7C PLCC20	U 9	C 8
53 880 00	IC HAL 16 R4B PLCC20	IC HAL 16 R4B PLCC20	U 10	B 4
53 881 00	IC HAL 16 R4B PLCC20	IC HAL 16 R4B PLCC20	U 11	B 4
53 750 00	IC HAL 16 R6B PLCC20	IC HAL 16 R6B PLCC20	U 12	B 4
53 759 00	IC 74 F 74 SO14	IC 74 F 74 SO14	U 13	A 7
53 882 00	IC HAL 20 L8B PLCC28	IC HAL 20 L8B PLCC28	U 14	B 8
52 729 00	IC HAL 16 L8B PLCC Prog.	IC HAL 16 L8B PLCC Prog.	U 15	B 6
53 891 00	IC EPROM 128X8-15 DIL	IC EPROM 128X8-15 DIL	U 16	D 9
52 182 00	IC-Fassung 32pol.	IC Holder 32-pin	U 16	A 5
51 596 00	IC 74 LS 273 SO20	IC 74 LS 273 SO20	U 17	A 6
52 982 00	IC 74 F 02 SO14	IC 74 F 02 SO14	U 18	A 7
53 764 00	IC VL 82C332	IC VL 82C332	U 19	E 0
53 763 00	IC VL 82C330-FC3	IC VL 82C330-FC3	U 20	F 6
52 760 00	IC VL 82C331	IC VL 82C331	U 21	E 1
53 953 00	IC Simm Modul 1M X 36 70NS	IC Simm Module 1M X 36 70NS	U 26, 27	I 0
53 887 00	IC Simm Sockel 1 X 72 Pin	IC Simm Socket 1 X 72 Pin	U 26-29	C 4
53 884 00	IC 8042 12 MHz PLCC44	IC 8042 12 MHz PLCC44	U 30	C 3
51 586 00	IC 7406 SO14	IC 7406 SO14	U 31	A 9
51 589 00	IC 74 F 126 SO14	IC 74 F 126 SO14	U 32	A 3
50 773 00	IC BIGJIM TC110G008	IC BIGJIM TC110G008	U 33	D 1
51 319 00	IC 74 LS 245 SO20	IC 74 LS 245 SO20	U 34, 44-47, 56-59	A 7
52 758 00	IC NMC 9346N DIL8	IC NMC 9346N DIL8	U 35, 53	B 5
51 318 00	IC 74 HC 165 SO22	IC 74 HC 165 SO22	U 36	A 9
50 105 00	IC WD 37C65A/B-JMOO	IC WD 37C65A/B-JMOO	U 37	D 5
53 328 00	IC 16 C 450 PLCC 44	IC 16 C 450 PLCC 44	U 39	B 9
52 756 00	IC MC 1488 SO14	IC MC 1488 SO14	U 40	A 7
52 757 00	IC MC 1489 SO	IC MC 1489 SO	U 41	A 7
52 752 00	IC ATI 18810 SO20	IC ATI 18810 SO20	U 42	C 3
52 750 00	IC 78 L 05 S08	IC 78 L 05 S08	U 43	A 4
53 761 00	IC ATI 28800-5 QPFP160	IC ATI 28800-5 QPFP160	U 48	E 9
53 329 00	IC DRAM 256K X 4 80NS	IC DRAM 256K X 4 80NS	U 49-52	C 9
53 970 00	IC TR 9C 1710-80DC	IC TR 9C 1710-80DC	U 54	C 5
51 543 00	IC LM 339 QUAD Comparator	IC LM 339 QUAD Comparator	U 55	B 2
50 238 00	IC 7905	IC 7905	U 60	A 6

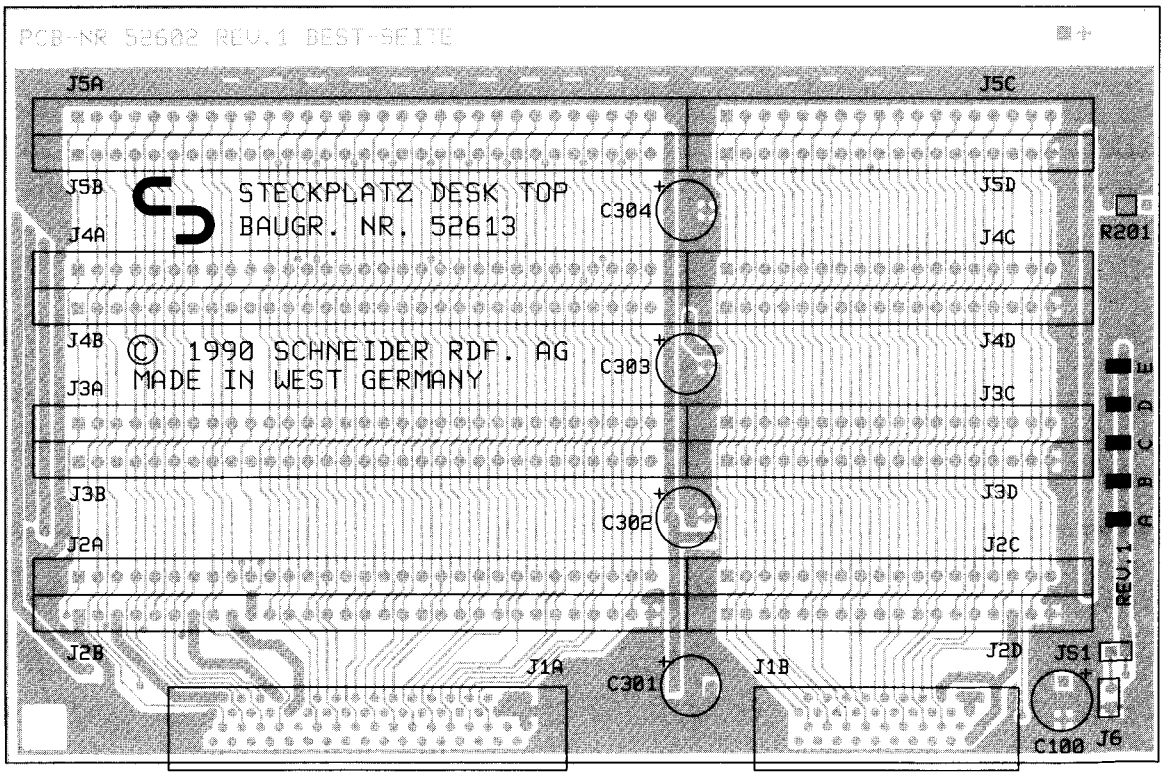
Ersatzteilliste für CPU Platine
Parts list for CPU P.C.B.

Best.-Nr. Part.-No.	Bezeichnung	Description	Zeich.-Pos. Ref.-No.	Preisgruppe Price key
52 763 00	Trans. BC 817-16 NPN	Trans. BC 817-16 NPN	T 1-6, 11-13	A 1
52 764 00	Trans. BC 807-16 PNP	Trans. BC 807-16 PNP	T 7-10, 14	A 1
52 765 00	Diode BAS 32 SOD 80	Diode BAS 32 SOD 80	D 1-7	A 5
52 777 00	Batterie NICD 3,6 V	Battery NICD 3.6 V	BAT 1	C 0
50 949 00	Buchse SUB-D 9 PIN	Socket SUB-D 9 PIN	J 3	C 3
50 133 00	Buchse SUB-D 25 PIN	Socket SUB-D 25 PIN	J 4, J 8 C	B 2
52 948 00	Buchse Dioden 5pol.	Socket Dioden 5-pin	J 5	A 7
52 985 00	Buchse SUB-D 9 PIN	Socket SUB-D 9 PIN	J 7	A 7
52 986 00	Buchse HDD 15 PIN	Socket HDD 15 PIN	J 16	B 3
51 084 00	Stiftleiste 2 × 17	Connector 2 × 17	J 8 B	A 7
51 085 00	Stiftleiste 2 × 20	Connector 2 × 20	J 9	A 7
52 779 00	Stiftleiste RM 3,96	Connector RM 3.96	J 10	A 7
53 247 00	Stiftleiste RM 2,54 4pol.	Connector RM 2.54 4-pin	J 11	A 7
51 569 00	Stiftleiste RM 2,54 26pol.	Connector RM 2.54 26-pin	J 13, J 8 A	A 7
51 626 00	Stiftleiste RM 2,54 2pol.	Connector RM 2,54 2-pin	JU 1, 2	A 7
50 374 00	Steckbrücke RM 2,54	Connector RM 2,54	JU 1-3	A 7
54 238 00	Spule 3,3 µH	Coil 3.3 µH	L 1, 5	A 9
54 239 00	Spule 3,3 µH	Coil 3.3 µH	L 2-4	A 9
50 332 00	Summer	Buzzer	LS 1	A 8
52 762 00	Osz. 40,0 MHz	Osc. 40.0 MHz	OSC 1	B 8
50 833 00	Osz. 32,0 MHz	Osc. 32.0 MHz	OSC 2	B 8
52 348 00	Osz. 14,3181 MHZ	Osc. 14.3181 MHz	OSC 3	B 8
51 330 00	Osz. 1,8432 MHz	Osc. 1.8432 MHz	OSC 5	B 8
50 989 00	Osz. 45,0 MHz	Osc. 45.0 MHz	OSC 6	B 9
51 040 00	Quarz 32,768 kHz	Crystal 32.768 kHz	Q 1	A 7
51 093 00	Quarz 9,6 MHz HC-18 U	Crystal 9.6 MHz HC-18 U	Q 2	A 8
50 321 00	Widerstand PTC 0R75	Resistor PTC 0R75	R 182	B 0
53 769 00	R-Netzwerk 15X20K	R-net work 15X20K	RN 1	A 7
52 769 00	R-Netzwerk 15X10K	R-net work 15X10K	RN 2, 3	A 7
52 768 00	R-Netzwerk 15X4K7	R-net work 15X4K7	RN 4	A 7
52 767 00	R-Netzwerk 15X1K	R-net work 15X1K	RN 5	A 7
53 731 00	R-Netzwerk 8X33R	R-net work 8X33R	RN 6-9	A 7

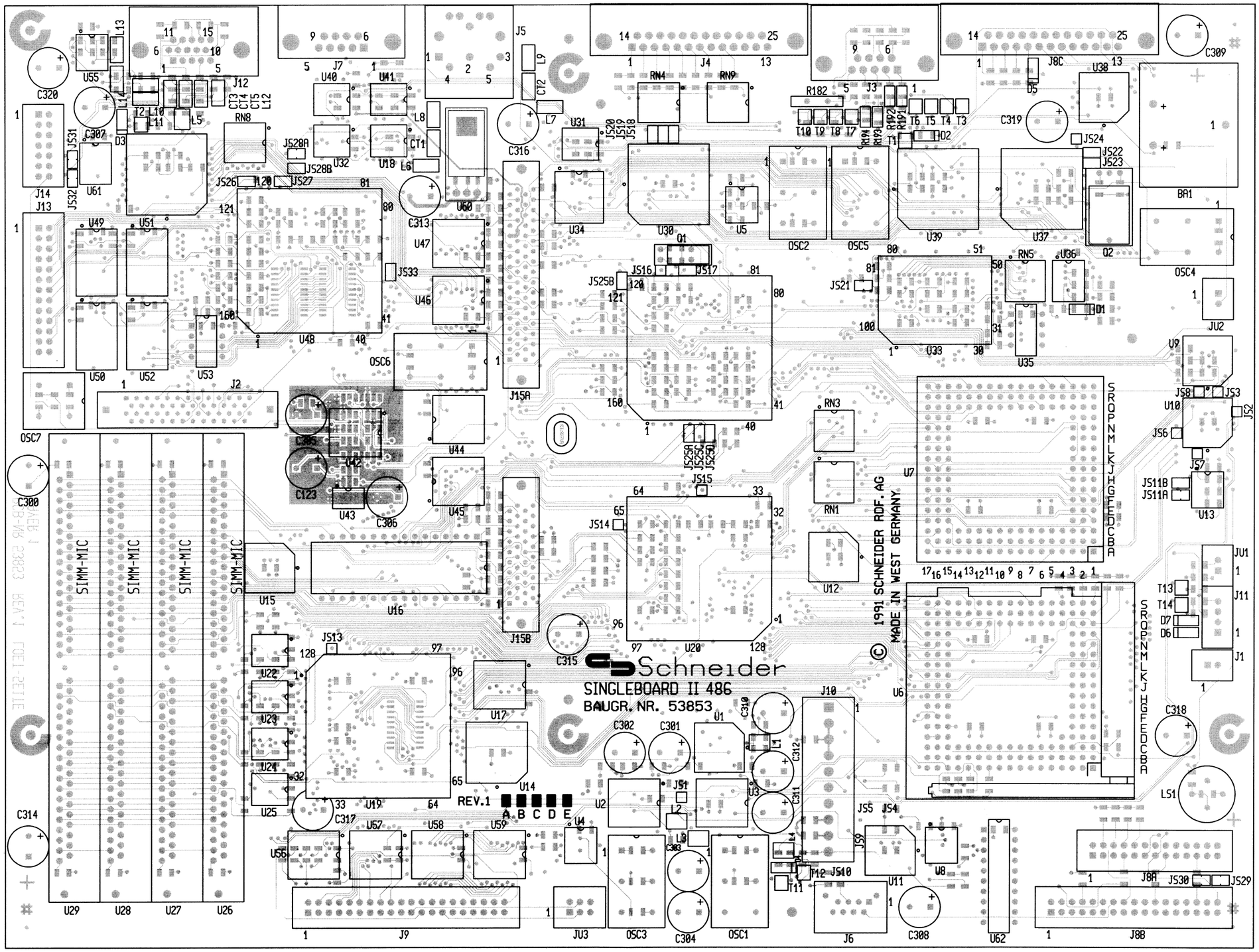
Slot P.C.B.
Soldering side



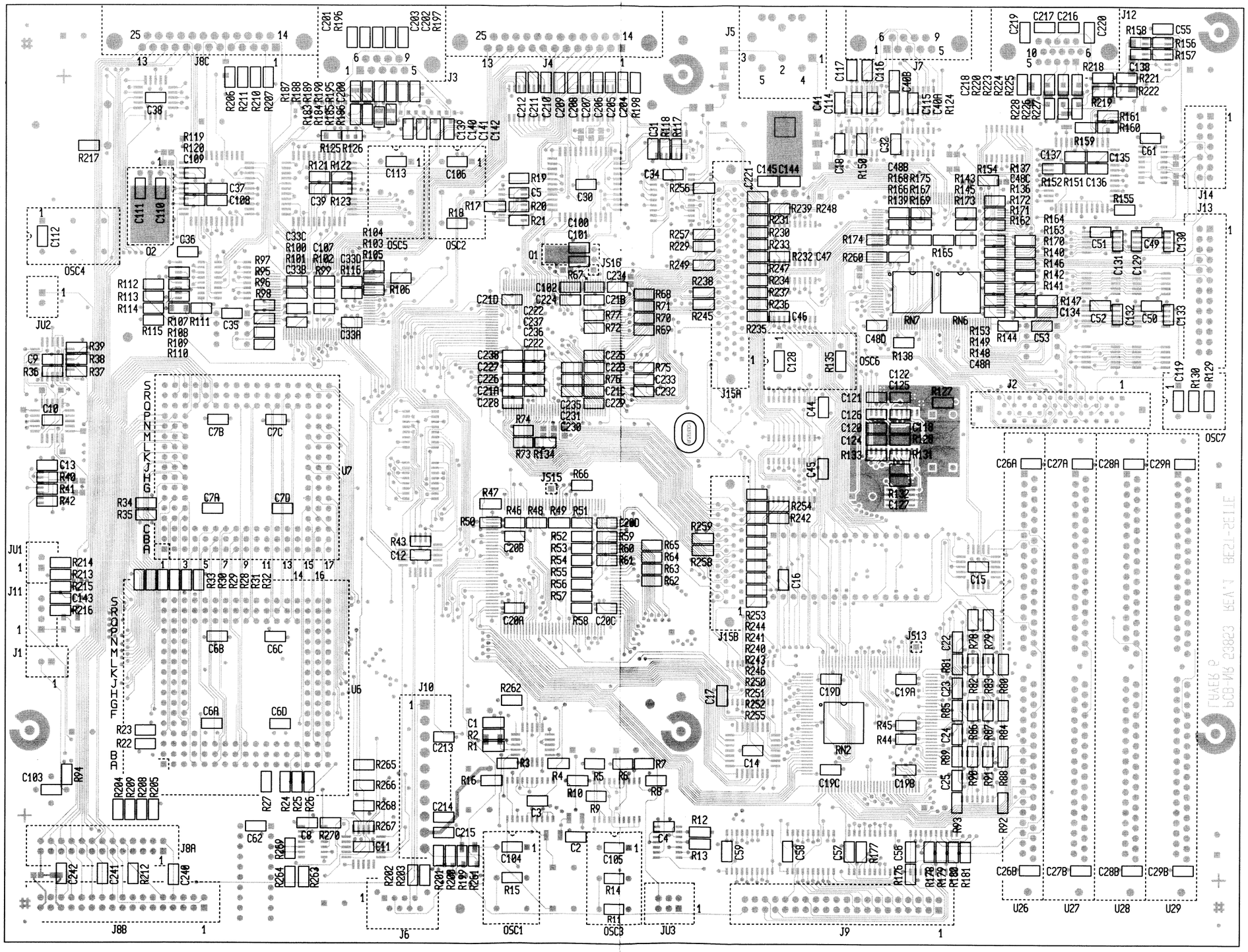
Slot P.C.B.
Component side



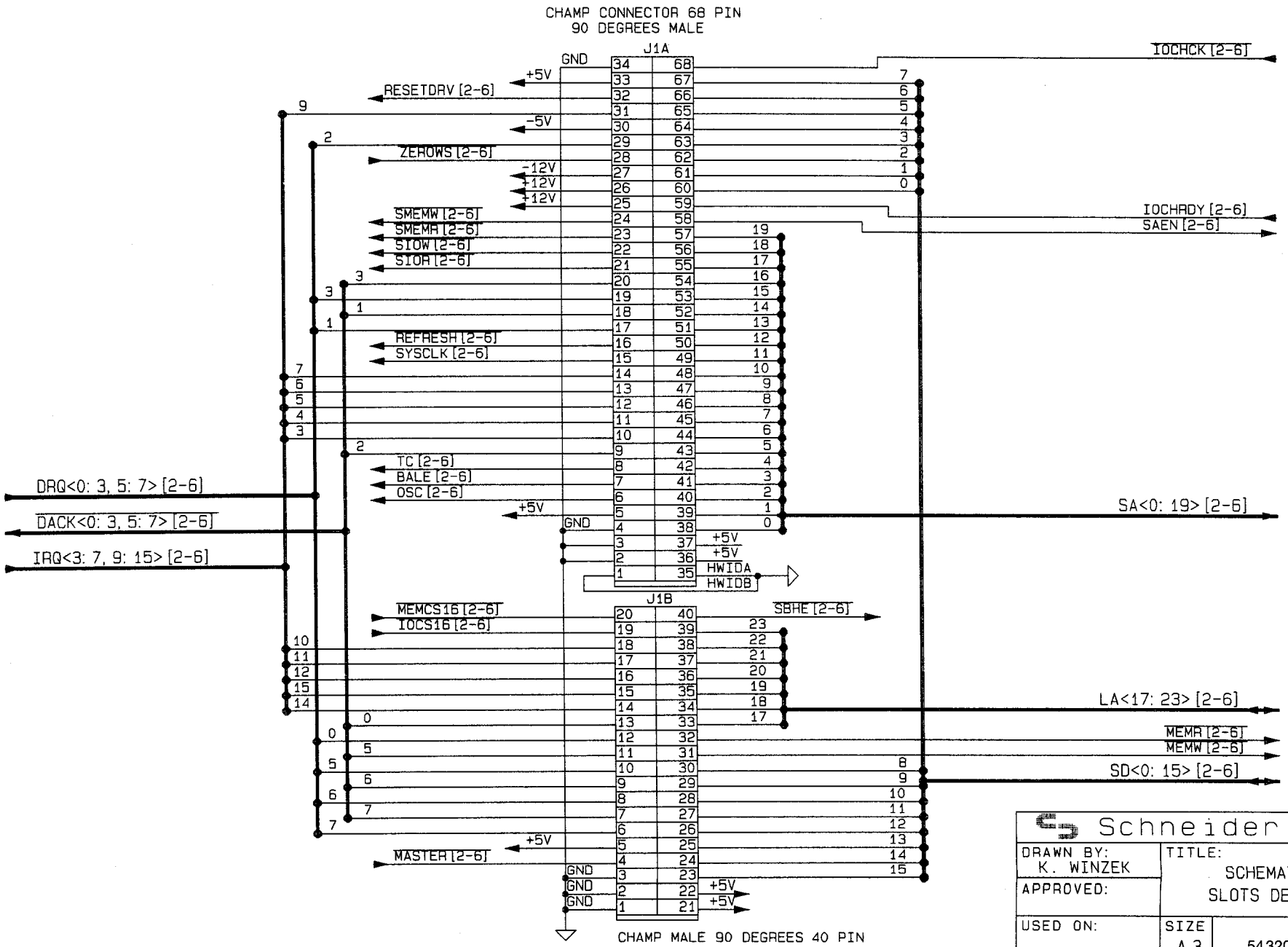
CPU P.C.B.
Component side



CPU P.C.B.
Soldering side



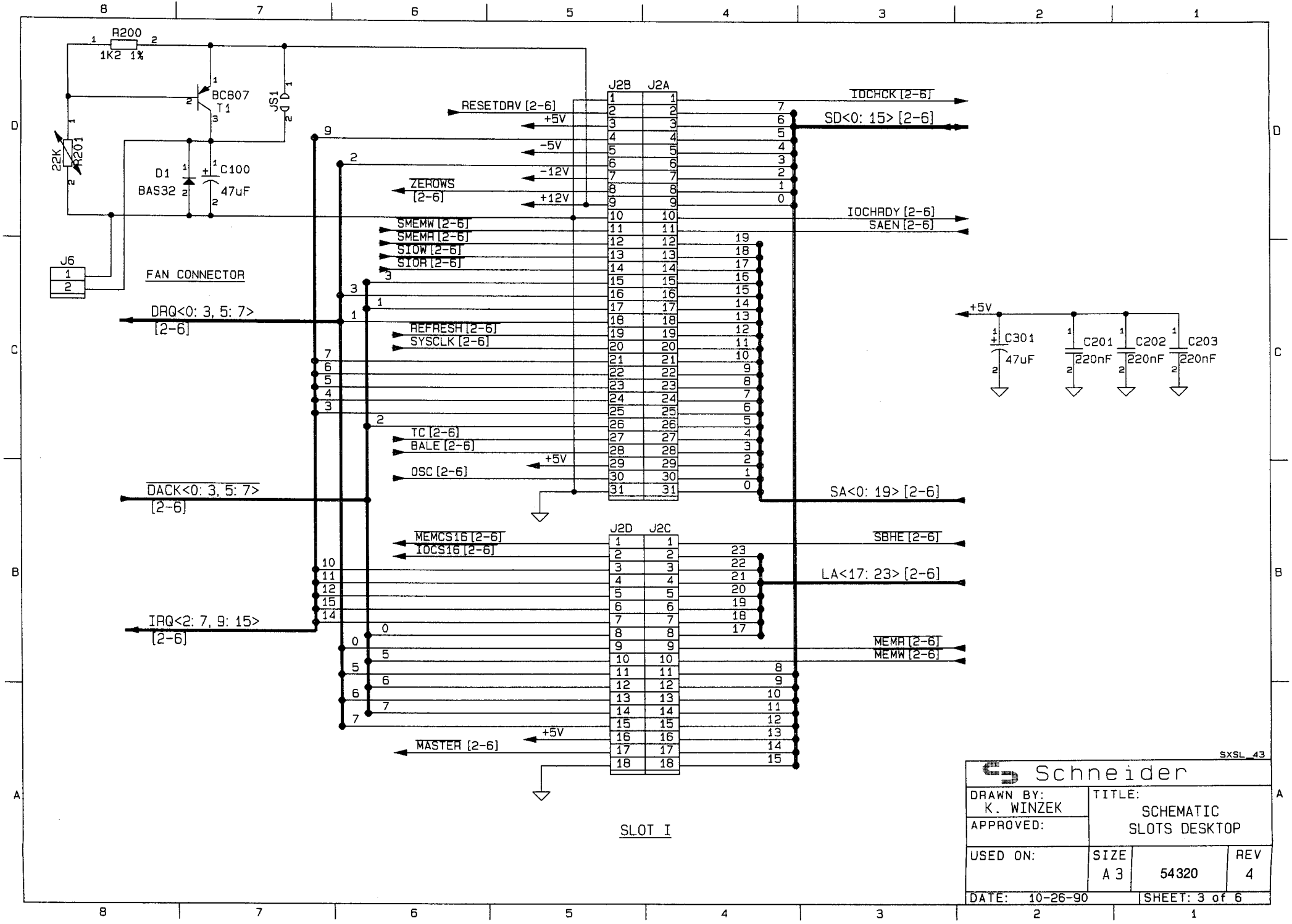
SLOT PCB CONNECTOR

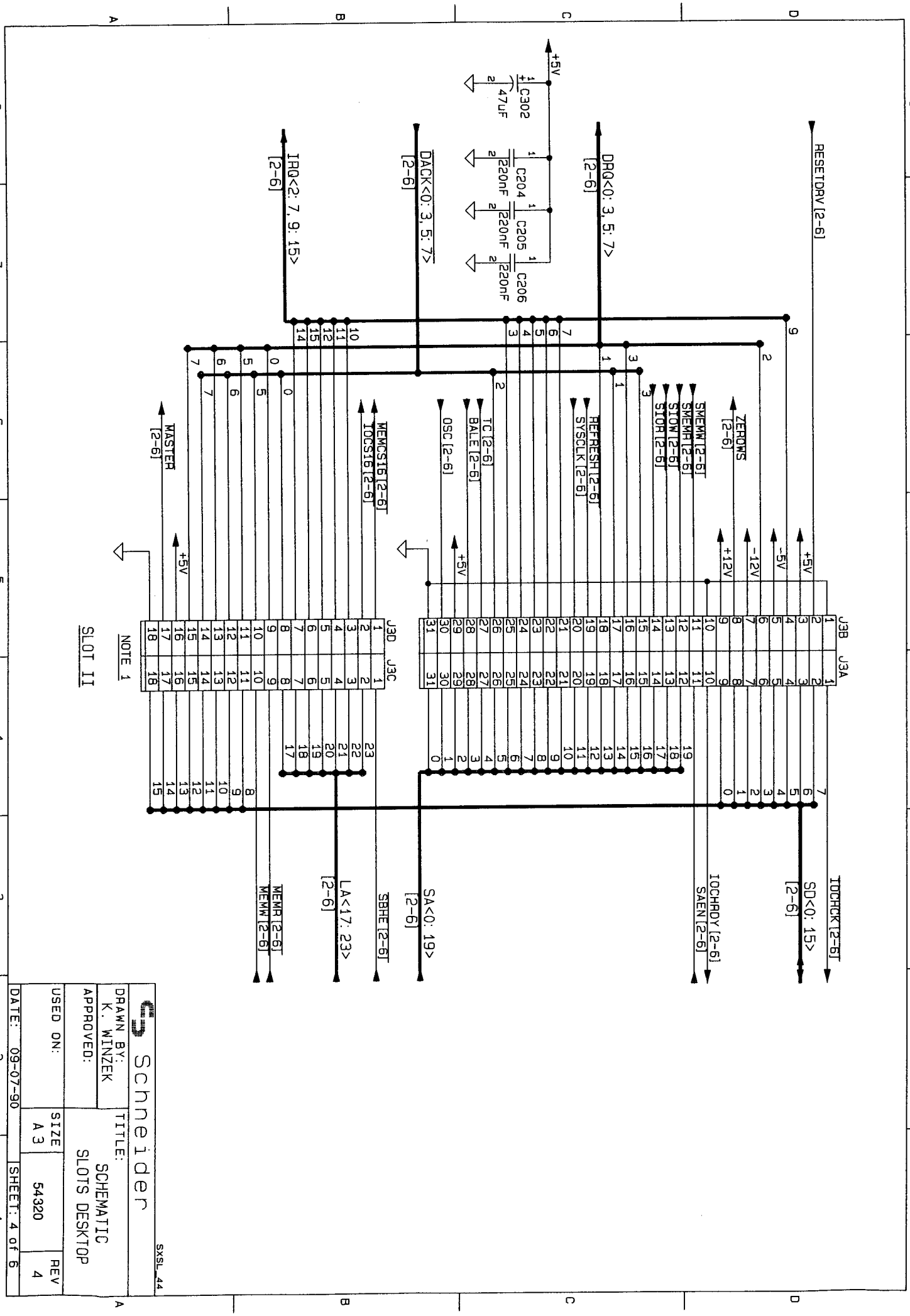


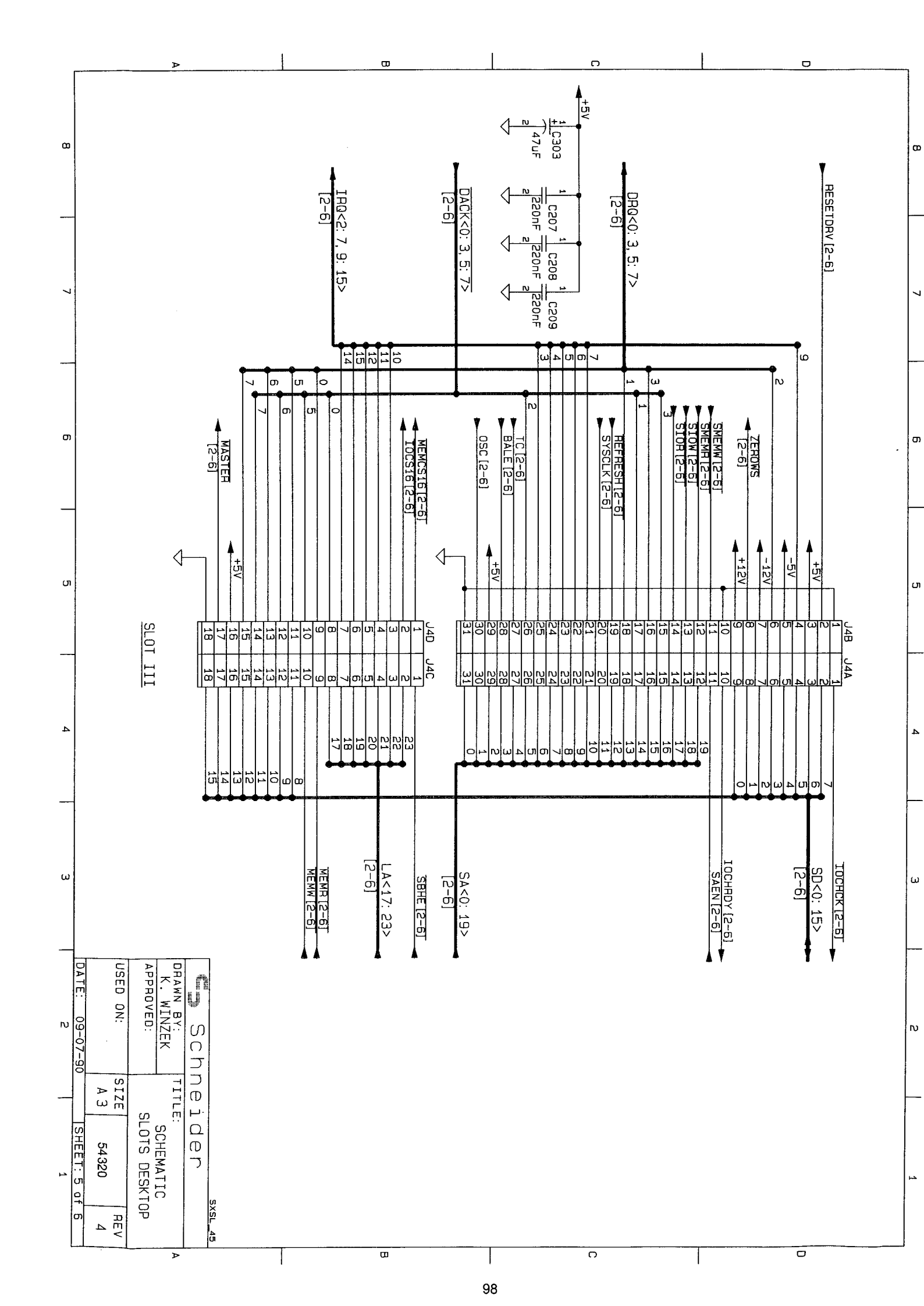
SXSL_42

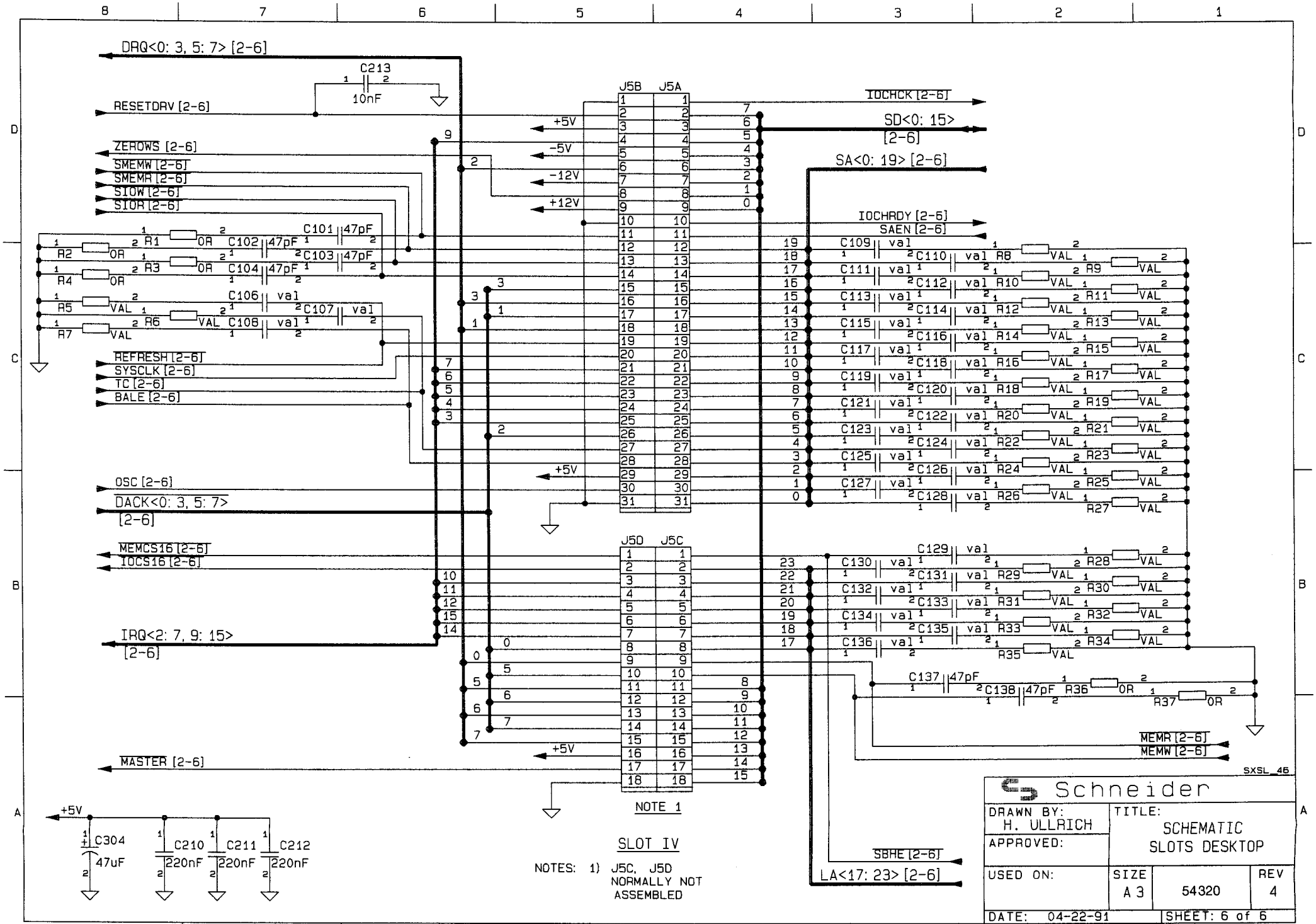
Schneider

DRAWN BY: K. WINZEK	TITLE: SCHEMATIC SLOTS DESKTOP		
APPROVED:			
USED ON:	SIZE A 3	54320	REV 4
DATE: 09-07-90	SHEET: 2 of 6		

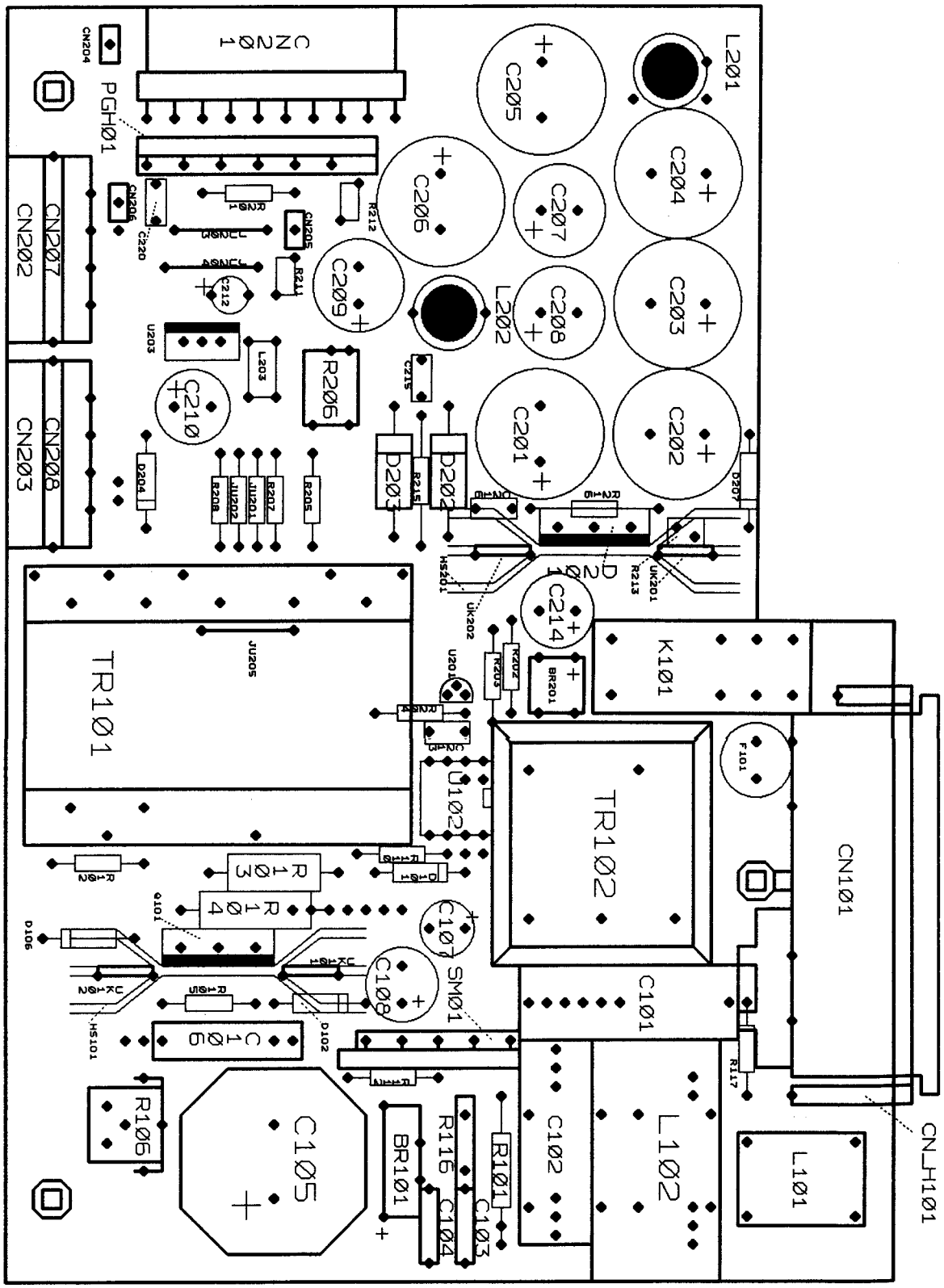

R200
1K2 1%
BC807
T1
JS1
22K
R201
D1
BAS32
C100
47uF
J6
FAN CONNECTOR
J2B J2A
J2D J2C
RESETDRV [2-6]
+5V
-5V
-12V
+12V
ZEROWS [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
DRQ<0: 3, 5: 7> [2-6]
REFRESH [2-6]
SYSCLK [2-6]
TC [2-6]
BALE [2-6]
OSC [2-6]
DACK<0: 3, 5: 7> [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
IRQ<2: 7, 9: 15> [2-6]
MASTER [2-6]
IOCHCK [2-6]
SD<0: 15> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19> [2-6]
SBHE [2-6]
LA<17: 23> [2-6]
MEMR [2-6]
MEMW [2-6]
C301
47uF
C201
220nF
C202
220nF
C203
220nF
SLOT I
SXSL_43
Schneider
DRAWN BY: K. WINZEK
APPROVED:
TITLE: SCHEMATIC SLOTS DESKTOP
USED ON:
SIZE A 3
54320
REV 4
DATE: 10-26-90
SHEET: 3 of 6


RESETDRV [2-6]
DRQ<0: 3, 5: 7>
[2-6]
DACK<0: 3, 5: 7>
[2-6]
IRQ<2: 7, 9: 15>
[2-6]
+5V
C302
47uF
C204
220nF
C205
220nF
C206
220nF
J3B
J3A
J3D
J3C
NOTE 1
SLOT II
MASTER [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
OSC [2-6]
TC [2-6]
BALE [2-6]
REFRESH [2-6]
SYSCLK [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
ZEROWS [2-6]
+12V
-12V
-5V
IOCHCK [2-6]
SD<0: 15>
[2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19>
[2-6]
LA<17: 23>
[2-6]
SBHE [2-6]
MEMR [2-6]
MEMW [2-6]
Schneider
DRAWN BY:
K. WINZEK
APPROVED:
USED ON:
TITLE:
SCHEMATIC
SLOTS DESKTOP
SIZE
A 3
54320
REV
4
DATE: 09-07-90
SHEET: 4 of 6
SXSL_44


RESETDRV [2-6]
DRQ<0: 3, 5: 7> [2-6]
DACK<0: 3, 5: 7> [2-6]
IRQ<2: 7, 9: 15> [2-6]
+5V
C303 47uF
C207 220nF
C208 220nF
C209 220nF
J4B
J4A
J4D
J4C
SLOT III
MASTER [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
OSC [2-6]
TC [2-6]
BALE [2-6]
REFRESH [2-6]
SYSCLK [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
ZEROWS [2-6]
+12V
-12V
-5V
IOCHCK [2-6]
SD<0: 15> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
SA<0: 19> [2-6]
SBHE [2-6]
LA<17: 23> [2-6]
MEMR [2-6]
MEMW [2-6]
Schneider
DRAWN BY: K. WINZEK
APPROVED:
USED ON:
TITLE: SCHEMATIC SLOTS DESKTOP
SIZE A 3
54320
REV 4
DATE: 09-07-90
SHEET: 5 of 6
SXSL_45


DRQ<0: 3, 5: 7> [2-6]
C213
10nF
RESETDRV [2-6]
ZEROWS [2-6]
SMEMW [2-6]
SMEMR [2-6]
SIOW [2-6]
SIOR [2-6]
REFRESH [2-6]
SYSCLK [2-6]
TC [2-6]
BALE [2-6]
OSC [2-6]
DACK<0: 3, 5: 7> [2-6]
MEMCS16 [2-6]
IOCS16 [2-6]
IRQ<2: 7, 9: 15> [2-6]
MASTER [2-6]
+5V
-5V
-12V
+12V
J5B J5A
J5D J5C
IOCHCK [2-6]
SD<0: 15> [2-6]
SA<0: 19> [2-6]
IOCHRDY [2-6]
SAEN [2-6]
SBHE [2-6]
LA<17: 23> [2-6]
MEMR [2-6]
MEMW [2-6]
C304 47uF
C210 220nF
C211 220nF
C212 220nF
NOTE 1
SLOT IV
NOTES: 1) J5C, J5D NORMALLY NOT ASSEMBLED
SXSL_46
Schneider
DRAWN BY: H. ULLRICH
APPROVED:
TITLE: SCHEMATIC SLOTS DESKTOP
USED ON:
SIZE A 3
54320
REV 4
DATE: 04-22-91
SHEET: 6 of 6

Power supply
Component side



Schematic diagram

Power supply